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ABSTRACT

One of the working papers in the final report of the Arizona Board of Regents' Task Force on Excellence, Efficiency and Competitiveness, this document presents information on a review of the management efficiency of the state's three universities and the board office and of the funding and allocation system for the state universities. The most important messages to come out of this survey are that Arizona's public university system is grounded on the enviable competitive strengths of institutional autonomy, popular support, a single well-empowered governing board, and increasing national recognition. Arizona's ability to exploit these strengths is being hindered by these factors: lack of an articulated statewide strategy for higher education; a cumbersome system level decision making process; inadequate performance accountability; a funding process without a strategic anchor; and inadequate information to support policy analysis, decision making, and planning. Summary recommendations are as follows: undertake improvements in board level organization and decision making processes; develop an effective strategic plan for Arizona's system of higher education; reevaluate and modify the state funding process after the development of a strategic plan; improve state-level information management capabilities and accountability reporting; and undertake a number of specific suggested projects to reduce costs, increase value, reduce risk, and promote strategic goals. An implementation schedule is presented. (SM)

A REVIEW OF THE ORGANIZATION, FUNDING PROCESS AND SELECTED ADMINISTRATIVE SYSTEMS OF THE ARIZONA UNIVERSITIES AND THE ARIZONA BOARD OF REGENTS

A REPORT TO THE REGENTS' TASK FORCE
ON EXCELLENCE, EFFICIENCY AND COMPETITIVENESS

MAY, 1988

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EXECUTIVE DIRECTOR'S NOTE:

The Task Force at one of its early meetings reached the decision to use a nationally recognized management firm to conduct a review of the management efficiency of the three universities and the Board Office and of the funding and allocation system for the state universities. A Request for proposal for the conduct of the study was prepared by the Task Force staff and approved by the Task Force for release.

The request for proposal requested separate bids for an analysis of non-academic support services of the three universities and for a review of the procedures for funding and budgeting used by the universities, the Board, the Executive Department of state government and the Legislature. A sum of \$300,000 was allocated by the Task Force. Four finalists were selected to make a formal presentation to the entire Task Force. The firm of Coopers & Lybrand was selected to conduct the

study and contract was awarded in October, 1987.

During the following six months the survey was conducted, data collected and analyzed and tentative conclusions and recommendations reached. A preliminary report was critiqued by the Task Force staff, administrators from the universities and the Board Staff, and external consultants. The final document, however, represents the professional judgment of the contractor.

The Executive Summary of the final report of the study by Coopers & Lybrand is reproduced and follows this introduction. The complete report is available in the Board Office, 3030 North Central Avenue, Suite 1400, Phoenix, Arizona 85012. Copies have also been deposited in the University libraries of Arizona State University in Tempe, Northern Arizona University in Flagstaff, and the University of Arizona in Tucson.

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HE 022 492

A. EXECUTIVE SUMMARY

The Arizona Board of Regents established the Task Force on Excellence, Efficiency and Competitiveness in March, 1987 to address several critical issues facing the Arizona university system and to develop and submit recommendations for improving the system's excellence, efficiency and competitiveness.

The Task Force engaged Coopers & Lybrand to evaluate the management efficiency of the Arizona universities and Board of Regents, and to evaluate the state's process for funding this system of university education.

An executive summary of our final report on this project is presented in the following pages.

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EXECUTIVE SUMMARY . . .

1. SYNOPSIS

This report contains many different messages for many different stakeholders in the Arizona university system. The most important messages are these:

- . . Arizona's public university system is grounded on the enviable competitive strengths of institutional autonomy, popular support, a single well-empowered governing board, and increasing national recognition.

Every effort should be made to nurture and protect these strengths.

- . Arizona's ability to exploit these strengths is being hindered by five fundamental problems:

- .. The lack of an articulated statewide strategy for higher education,
- .. A cumbersome system-level decision-making process,
- .. A funding process without a strategic "anchor",
- .. Inadequate performance accountability, and
- .. Inadequate information to support policy analysis, decision-making, and planning.

Every effort should be made to overcome these weaknesses.

- . While we found many opportunities for improvement in the specific administrative functions we reviewed, we found no "buckets of fat", and no systemic or widespread inefficiency.

EXECUTIVE SUMMARY . . .

- . In fact, we found dedicated, highly capable and energetic managers, executives, Board members and volunteers who were devoting enormous amounts of time, energy and talent in efforts to solve the day to day problems and issues facing these complex institutions. Many were engaged in "catch up" efforts to replace or streamline old systems, procedures and ways of doing business which the universities and the system outgrew long ago and which are badly in need of replacement.

Our summary recommendations are these:

- . Undertake improvements in Board level organization and decision-making processes,
- . Develop an effective strategic plan for Arizona's system of higher education,
- . Reevaluate and modify the state funding process after the development of a strategic plan,
- . Improve state-level information management capabilities and accountability reporting, and
- . Undertake a number of specific suggested projects to reduce costs, increase value, reduce risk, and promote strategic goals.

* * * * *

The following pages summarize the detailed assessments and recommendations contained in our final report.

EXECUTIVE SUMMARY . . .

2. OBJECTIVES AND APPROACH

Our review focused on three major areas:

- . Board level issues, including organization and decision-making, strategic planning, and Board information,
- . The funding and appropriations process, and
- . Selected administrative functions at the three universities, including information systems, human resources, physical resources and facilities, and procurement.

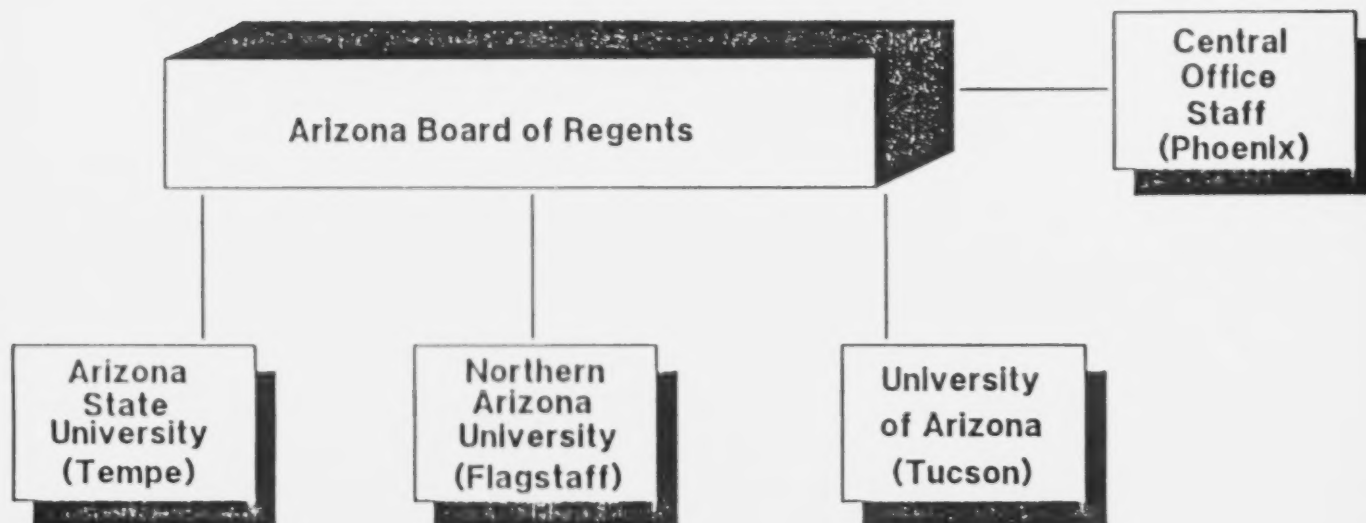
Our analysis was supported by data from focus group sessions, individual interviews, a user survey, site visits, selected interstate and intrastate financial and statistical analysis, and a comparative review of funding processes in other selected states.

Our review was limited to addressing a set of "high payback" areas identified during the first two weeks of the project, and therefore did not encompass all the business operations of the universities nor all areas within the business operations under review.

The review did not address academic issues such as faculty compensation or academic computing.

It is important to note that other objectives of the Task Force are being addressed concurrently and have not yet been integrated with this study. Potential areas of disagreement or redundancy may therefore exist between this study and other work being conducted by the Task Force and its staff.

Organization of the Arizona University System



EXECUTIVE SUMMARY . . .

3. OVERVIEW

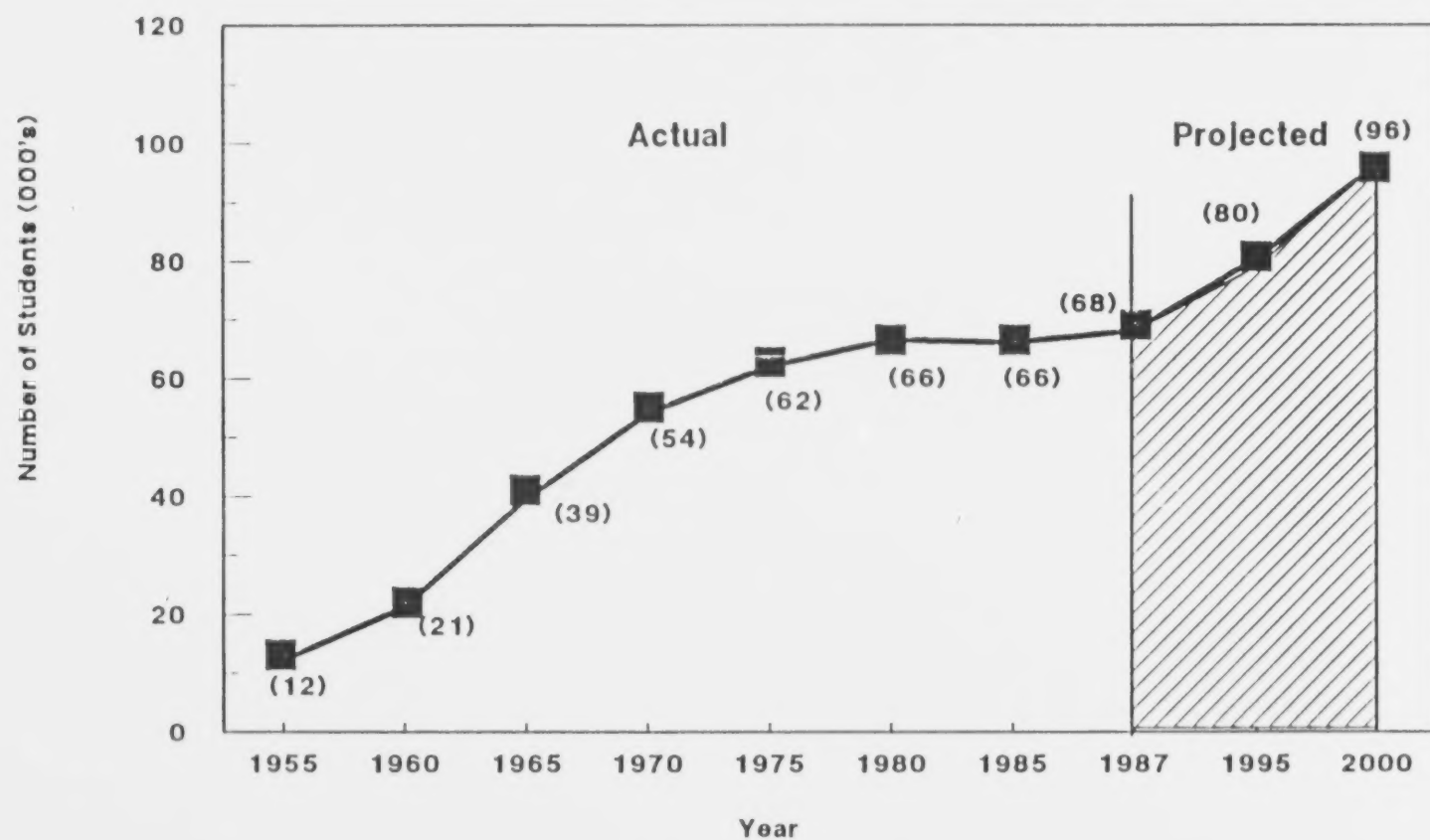
The Arizona university system is one of the state's three or four largest businesses.

- . Over half of the system's billion dollar a year revenues are generated from local funds and sponsored research, with state appropriations of \$454 million making up the balance.
- . With almost 17,000 employees, the Arizona Board of Regents is Arizona's third largest employer, with an annual payroll of almost \$500 million.
- . The campuses, including ASU West, are located on almost 2,000 acres of land and consist of over 800 buildings and over 17 million square feet of classroom, office, laboratory and library space. Maintenance of this physical plant alone is a \$60 million dollar a year operation.
- . The universities procure over \$220 million of goods and services in support of academic, administrative and research activities, and spend at least \$27 million a year just to operate and maintain the system's computers.

Change is a principal driving force behind many of the problems we encountered, and is forcing fundamental shifts in the way the universities run their business.

- . Unprecedented growth in student enrollments during the 60's caused the Arizona universities to more than double in size. Although the growth rate slowed in the 70's, with slight declines in the late 70's and early 80's, student enrollments nonetheless have increased more than ten percent in the past twelve years.

Student FTE Enrollment in the Arizona Universities



Source: Arizona University System 1987 Fact Book

EXECUTIVE SUMMARY . . .

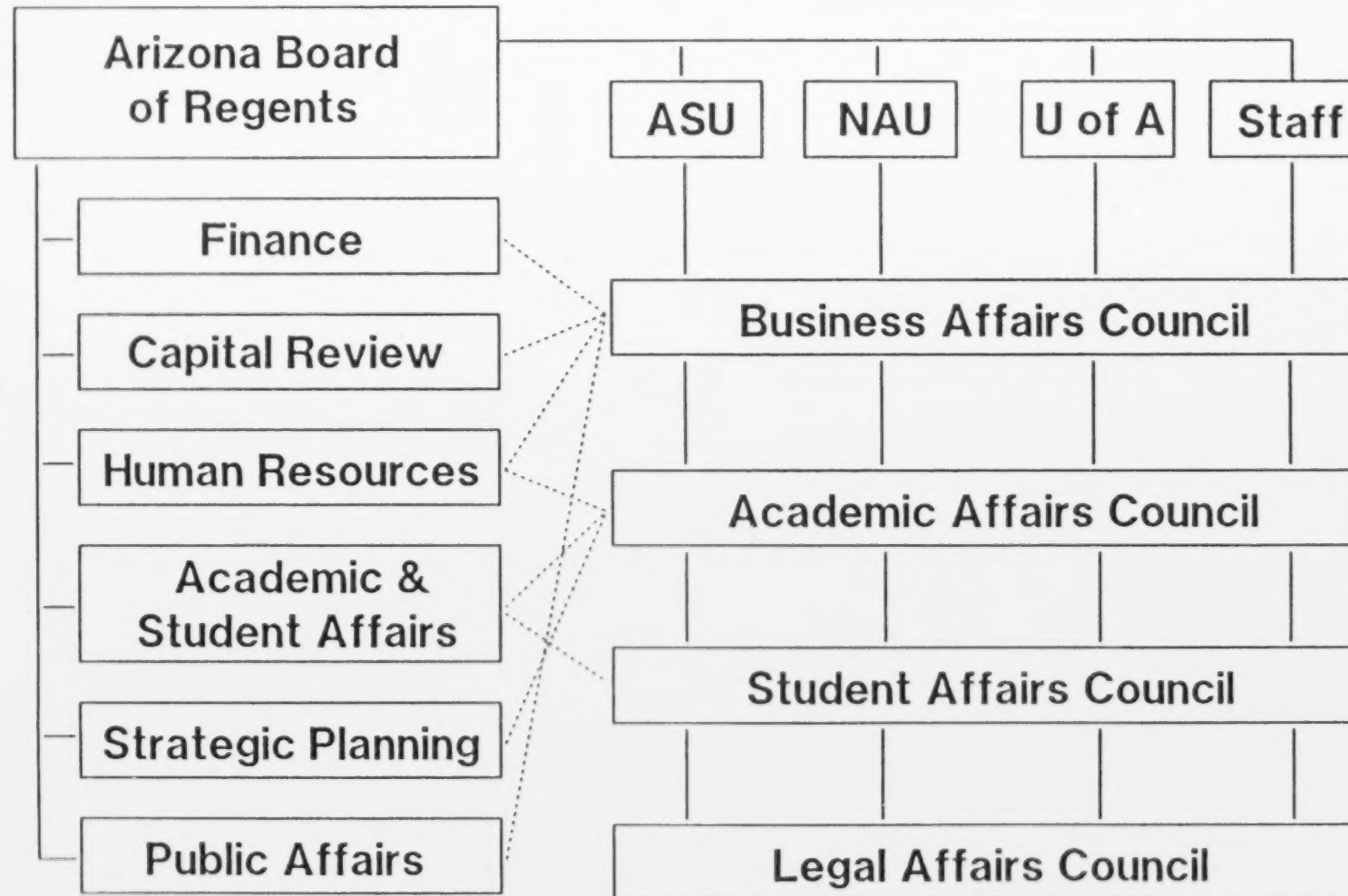
- . Projected demographic changes will pose many new challenges. The population of Arizona is projected to increase 66% to over five million people over the next fifteen years. Minorities are expected to comprise the majority of this growth and the majority of the school age population within the next 15 years.
- . As a result of the demographic shift, improving educational access to minorities will become increasingly important in the future because these groups have typically had lower than average participation rates in higher education. Means for providing educational access to rural Arizona will also become increasingly important in reaching the state's growing minority population.
- . Projections of continued growth in university enrollments also pose major challenges. Although many feel the Arizona universities are currently at (or quite possibly beyond) their optimum campus size for efficiency and educational quality, enrollments are expected to continue to increase to 96,500 students by the year 2000, a 46% increase from current levels.
- . Financial strains on Arizona state government are likely to lead to increased competition for funds. A combination of revenue shortfalls and increasing "formula driven" expenditures are placing strains on state finance which are likely to continue. Elected officials coping with such challenges will be increasingly interested in a demonstrable return on investment from all state funded programs.
- . Increasing national and international economic competition combined with the pace of technological change and the costs of "big science" will require stronger and more formal partnerships or consortia among the universities, all levels of government, and the private sector.

EXECUTIVE SUMMARY . . .

In summary, Arizona's century of investment in higher education has resulted in a big, complex and growing university system. This system, comprised of an activist Board governing three strong and highly competitive universities is receiving increasing national recognition for the excellence of its instructional, research and public service programs. However, many major challenges face this organization--challenges which will require difficult choices, hard decisions, quick reactions and concerted hard work by its stakeholders.

These challenges represent strategic opportunities. If the Arizona university system is to seize them, it will need a clear vision, team spirit and strong, efficient mechanisms for doing the work.

DECISION MAKING STRUCTURE



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EXECUTIVE SUMMARY . . .

4. ASSESSMENT OF SYSTEM LEVEL ORGANIZATION AND DECISION-MAKING

Symptoms of organizational problems led us to analyze the organization and decision-making structures of the Arizona university system as a whole.

While we did not analyze organizational structures within the individual universities themselves, we did find symptoms of organizational stress at the Board level and between the Board office and the universities. Examples include the following:

- . Organizational conflict and mistrust among various organizational entities was pervasive.
- . Intra-state competition among the universities appeared to be excessive and to take precedence over a nationally or internationally competitive orientation.
- . Decisions were being made at inappropriately high and low organizational levels.
- . Many important activities were being undertaken in a reactive, short-term or "hurry up" mode.
- . The Board was experiencing difficulty in implementing top-down decisions.
- . Excessive Board and executive time was being devoted to meetings.
- . Important policy decisions were being made with inadequate information to support the decision.
- . Information bottlenecks were hindering the free flow of information.
- . Significant efforts were being devoted to burdensome ad hoc data collection and compilation.

BOARD DECISION MAKING PROCESS



EXECUTIVE SUMMARY . . .

A principal cause of these problems is that the roles of key participants in the present system are vague and ill-defined. This is leading to role conflict and diffusion of responsibility for implementation.

- . A complex and interrelated set of organizational entities affects decision-making for the Arizona university system. However, no concise or consolidated definition exists which delineates the charter, role, responsibility, or expectations of these entities. Where definitions do exist, they tend to emphasize process or review functions rather than results. Specific task or product responsibilities are rarely noted and deadlines are conspicuously absent.
- . A crucial problem is that the roles, responsibilities and authorities of the Council of Presidents (which consists of the three university presidents and the Board's executive director), are conspicuously ill-defined, especially with respect to implementation of Board policy. No written objectives or charter have ever been established for this critical organizational entity.

Another major contributor to the problem symptoms is the fact that system level decision-making processes at the Board level are overly rule-bound, cumbersome and inefficient.

- . The concept of "collegiality"--i.e., highly participatory, consultative and consensus-oriented decision-making-- appears to govern not only university decision-making processes, as is traditional, but also the statewide Board level decision-making process. The extension of collegiality into regental decision-making, combined with vague roles and a limited number of players is resulting in more meetings and more time being spent to support system level meetings than in any other university system we have observed.

DECISION MAKING AND SUPPORT RESPONSIBILITIES

BOARD COMMITTEES

EXECUTIVE COUNCILS

	BOARD OF REGENTS	BOARD COMMITTEES						EXECUTIVE COUNCILS				
		Finance	Capital Review	Acad / Stud Affairs	Public Affairs	Strategic Planning	Human Resources	Council of Presidents	Academic Affairs	Business Affairs	Student Affairs	Legal Affairs
D. G. Shropshire, President	•	•	•	•	•	•	•					
E. S. Auslander	•	•	•	•	•	•	•					
E. N. Capin	•	•	•	•	•	•	•					
H. Chanen	•	•	•	•	•	•	•					
J. P. Miklitsch	•	•	•	•	•	•	•					
A. J. Pfister	•	•	•	•	•	•	•					
D. Pitt	•	•	•	•	•	•	•					
T. A. Tachias	•	•	•	•	•	•	•					
R. Watkins, Jr.	•	•	•	•	•	•	•					
Gov. R. Mofford (ex officio)	•											
Supt. C. D. Bishop (ex officio)	•											
J. RUSSELL NELSON, President	•			•		•		•	•		•	
C. ROLAND HADEN, V.P. Academic Affairs	•			•		•						
BETTY TURNER ASHER, V.P. Student Affairs	•			•		•						
BRENT W. BROWN, V.P. University Relations	•	•	•	•	•	•	•		•	•		•
VICTOR ZAFRA, V.P. Business Affairs	•	•	•	•	•	•	•					
BRUCE MEYERSON, General Counsel	•	•	•	•	•	•	•					
OTHER EXECUTIVES AND STAFF	•	•	•	•	•	•	•					
E. M. HUGHES, President	•	•	•	•	•	•	•	•	•		•	
FRANK BESNETTE, Executive V.P.	•	•	•	•	•	•	•					
D. MARKEE, V.P. Student Services	•	•	•	•	•	•	•					
PATRICIA REED, V.P. Academic Affairs	•	•	•	•	•	•	•					
OTHER EXECUTIVES AND STAFF	•	•	•	•	•	•	•					
HENRY KOFFLER, President	•	•	•	•	•	•	•	•	•		•	
NILS HASSELMO, Sr V.P. Academic Affairs	•	•	•	•	•	•	•					
BEN J. TUCHI, Sr V.P. Finance & Admin.	•	•	•	•	•	•	•					
GEORGE R. CUNNINGHAM, V.P. Admin Svcs.	•	•	•	•	•	•	•					
DUDLEY WOODWARD, V.P. Student Affairs	•	•	•	•	•	•	•					
ALAN BEIGEL, V.P. University Relations	•	•	•	•	•	•	•					
JAMES RICHMOND, Legal Counsel	•	•	•	•	•	•	•					
OTHER EXECUTIVES AND STAFF	•	•	•	•	•	•	•					
MOLLY C. BROAD, Executive Director	•	•	•	•	•	•	•	•	•		•	
JACQUELINE SCHNEIDER, Legal Counsel	•	•	•	•	•	•	•					
ODUS V. ELLIOTT, Assoc. Dir. Academic Prog.	•	•	•	•	•	•	•					
ROBERT LAWLESS, Assoc. Dir. Finance	•	•	•	•	•	•	•					
ROBERT WILLIAMS, Assoc. Dir. Capital Dev.	•	•	•	•	•	•	•					

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EXECUTIVE SUMMARY . . .

- . Additionally, the small size of the Board, the relatively large number of Board committees, and the relatively large membership on each Board committee combine to place extreme demands on individual regent's time. The combination creates a "logistical nightmare" in scheduling and coordination of these meetings.
- . The composition of staff councils and the traditional use of these councils to "staff" Board committees is causing role conflict and inefficient utilization of university staff resources. The strains caused by this practice are at their most severe for members of the Business Affairs Council. We estimate that members of this council are spending well over half their time on systemwide projects related to such meetings.
- . Because current structures and processes diffuse responsibility for implementation, top-down policy direction by the Board has no single implementation focal point. Such initiatives must instead filter through a complex web of committees and councils.
- . Current decision-making practices thus promote the development of a state level policy for the Arizona universities based on the "accretion" of individual university decisions. They do not support coordinated pursuit of a statewide strategic vision of the universities.

Delegation of authority from the Board to the university presidents is a third critical issue affecting university efficiency and effectiveness.

- . To the extent that the Board has no specific authority to delegate, the Board itself must exercise such authority collectively. If insufficient latitude for action is delegated, the Board will find itself involved in management level decisions which are inappropriate for a governing body.

REPRESENTATIVE DECISION MAKING SUBJECT AREAS

	BOARD OF REGENTS	BOARD COMMITTEES						EXECUTIVE COUNCILS				
		Finance	Capital Budget	Acad / Student Affairs	Public Affairs	Strategic Planning	Human Resources	Council of Presidents	Academic Affairs	Business Affairs	Student Affairs	Legal Affairs
Budgets (all)	•	•	•		•			•		•		
Finance & Accounting	•	•	•					•		•		
Audits	•	•						•		•		
Fees & Tuition	•			•		•		•		•		
Third Party Relationships	•	•						•		•		
Capital Budgets	•	•	•			•		•		•		
Capital Development Process	•		•			•		•		•		
Real Property Transactions	•		•					•		•		
Academic Degree Programs	•			•		•		•	•			
Academic Organizational Units	•			•				•	•			
Academic Personnel Policies	•			•			•	•	•			
Student Affairs	•			•		•		•			•	
Articulation Policies	•			•		•		•	•		•	
Governmental Relations	•				•			•		•		
Legislative Relations	•				•			•		•		
Public Affairs	•				•			•		•		
Enrollment Projections	•					•		•	•			
System / University Missions	•					•		•	•			
System / University Goals	•					•		•	•			
System / University Strategies	•					•		•	•			
Systemwide Strategic Plan	•					•		•	•			
Board Personnel Policies	•			•			•	•		•		
System Human Resources Plan	•			•			•	•		•		
Affirmative Action Plan	•						•	•		•		
Personnel Management Systems	•						•	•		•		
Classified Personnel	•						•	•		•		
Student Financial Aid	•	•		•				•		•	•	
Code of Conduct	•			•				•			•	
Student Health Insurance	•			•				•			•	
Legal Issues	•							•				•

EXECUTIVE SUMMARY . . .

- . The Board has not given adequate attention to the policy decisions relating to identification of areas of authority to be delegated to the university presidents and the development of specific guidelines to facilitate such delegation.
- . Absence of legislative guidelines coupled with a lack of attention to the policy question above, is simultaneously drawing the Board into areas of detailed management decision-making and away from policy development, advocacy and strategic decision-making.

The lack of a statewide strategic agenda for this system is another critical problem.

- . No statement of mission or strategic plan exists for the Arizona university system as a whole. The mission must be interpreted based on constitutional and legislative authorizations. This lack of framework for Board level policymaking leads to case-by-case decision-making without an overriding point of reference.
- . The absence of a mission and a plan means that no clearly articulated public consensus exists on where and how state monies should be spent within the three universities. No consensus exists on which programs in which institutions should be targeted as centers of excellence (or candidates for dismantlement), or where the state should target monies to achieve certain statewide goals not currently being addressed by the institutions.

Information to support board decision-making and policy development is collected inefficiently and presented ineffectively.

- . Political, social, financial, and legal realities are enlarging the role of the Arizona Board of Regents in the destinies of the three Arizona universities, and simultaneously heightening the importance of the decisions it makes. The Board needs relevant information to make these decisions.

EXECUTIVE SUMMARY . . .

- . However, the Board's information requirements have never been formally defined, and it maintains no information systems of its own. Consequently, the Board is being offered an enormous amount of data about the three universities. Some of this is helpful, but much of it is confusing, and in some cases, irrelevant.
- . Simultaneously, increasing ad hoc Board requests for specialized information have become extremely burdensome to the universities. University information systems--designed to meet specific operational needs of the campus--have not been designed to support such requests. These generally rigid operating systems often requires more time and effort to respond than the question warrants.
- . The absence of a capability to demonstrate linkage between budgets, performance measures, program evaluations, and strategic plans at both the university level and at the Board level is a critical organizational weakness which could threaten the universities' and Board's autonomy as Arizona state government spending comes under increasingly critical scrutiny.
- . Financial and performance reporting from the universities to the Board can be materially improved, if budgets are explicitly linked to strategic goals and reflect the results of performance appraisal, program analysis and evaluation. The Board's failure to define its expectations with respect to monitoring the performance of the universities has created an inefficient and ineffective accountability relationship among the universities, the Board and the legislature.
- . The Board's annual budget review process, for example, fails to result in an adequate Board evaluation of the universities' continuation budgets, which represent 95 percent of all state appropriations for the universities. Moreover, inadequate internal performance measures beyond traditional budget monitoring hinder the universities' abilities to efficiently manage their own resources and impedes accountability of subordinates to supervisors, universities to the Board, and the Board to the legislature.

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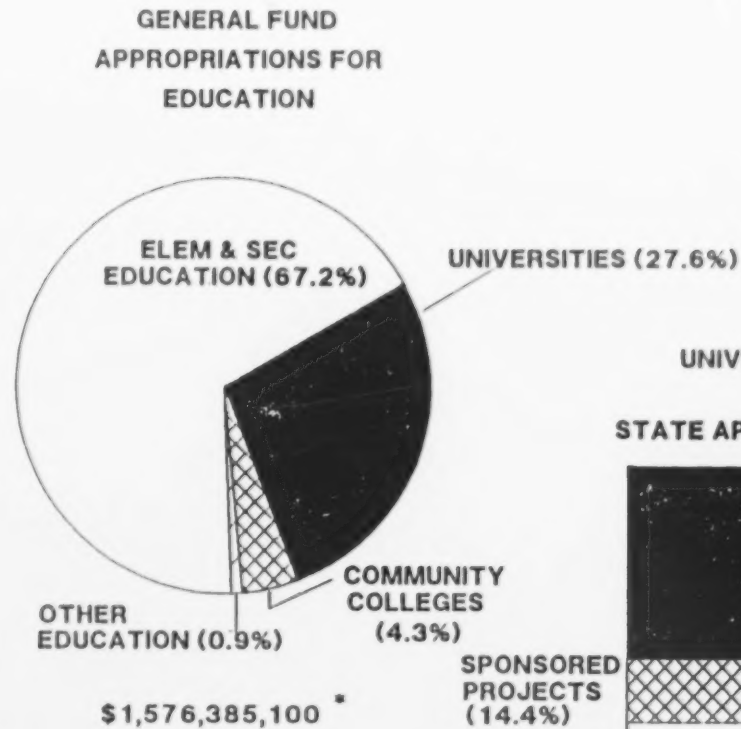
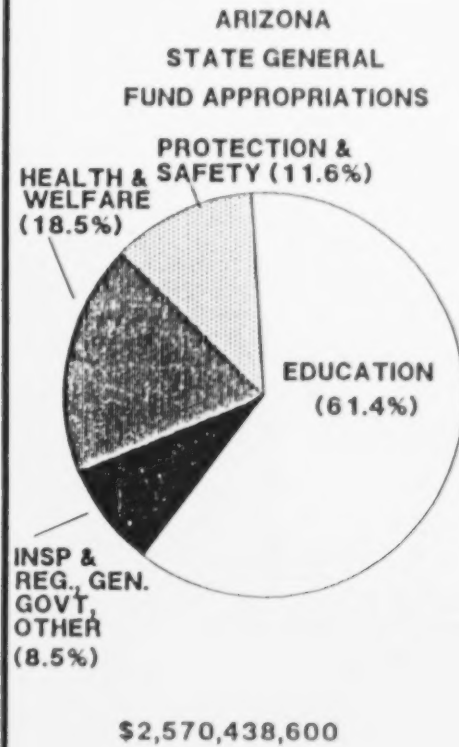
EXECUTIVE SUMMARY . . .

In our opinion, the organizational, planning and information weaknesses described above are the most significant problems facing the system. Finding a solution merits the Board's top priority and immediate attention.

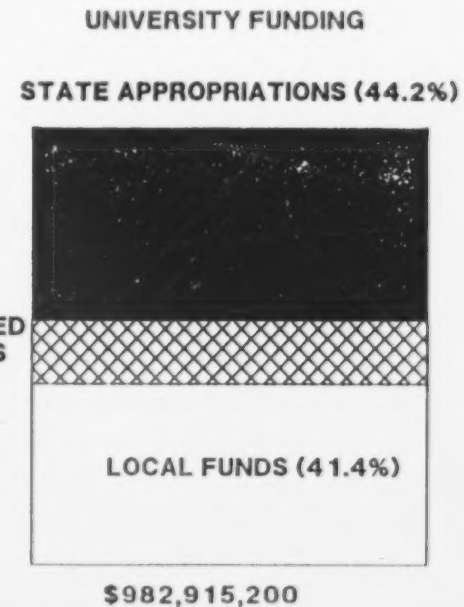
The impact of these problems on the abilities of the universities and Board to respond to future opportunity and changes outweighs the impact of any other area we studied. These problems are resulting in operational inefficiency. They stand in the way of the system exploiting its formidable competitive strengths. They hinder the universities' pursuit of excellence by chewing up precious time, breeding conflict and clouding vision of the future.

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State of Arizona and Arizona University Funding FY88



* Excludes State Funded
Building Renewal of \$8,689,000
and General Fund Capital Outlay
of \$12,993,500 (ASU-West).



EXECUTIVE SUMMARY . . .

5. ASSESSMENT OF THE FUNDING AND APPROPRIATIONS PROCESS

A sound funding mechanism should rationally and consistently allocate funds to support pre-determined objectives and should measure the outcomes of the activities funded.

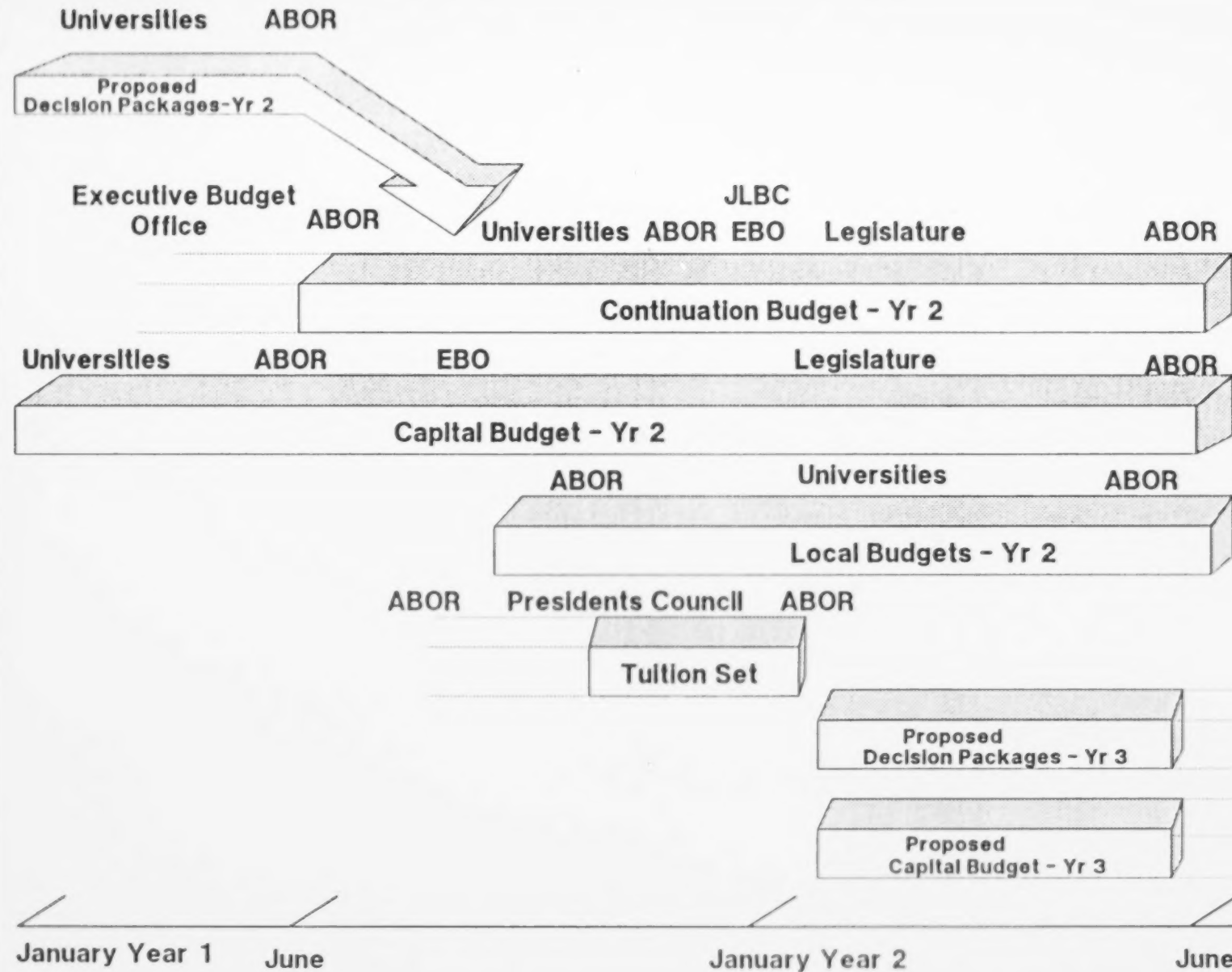
In this context, the Arizona funding process was evaluated against four basic criteria:

- . A sound funding mechanism should be integrally linked to statewide plans and priorities as well as to institutional missions and goals.
- . The funding process should ensure, to the extent possible, stability, predictability and continuity in base budgets.
- . Institutional autonomy and flexibility should be provided-for and nurtured through the funding process.
- . Institutions should be held accountable for the funds invested with them.

The mechanism through which the universities receive their funds is a complex series of relatively independent processes which occur over an 18-month timeframe and consists of continuation budgets, decision packages, local funds budgets and capital budgets.

- . Although the mechanics of this process are relatively clear, the ultimate form and outcomes of the process are affected by its numerous elected and appointed participants and the competing demands for finite resources required to balance the state's budget.
- . Since 1978, the State has been pressured to increase the share of funds appropriated to programs such as health care and prisons. As a result higher education's share of total state expenditures has declined, from over 24 percent in 1978 to less than 20 percent in 1988.

UNIVERSITY BUDGET PROCESS



EXECUTIVE SUMMARY . . .

The lack of a clear statewide plan for higher education and measurable institutional expectations promotes conflict and raises concerns about under and over-funding. Quantitative and qualitative expectations which might guide funding for Arizona higher education are not well articulated or clearly understood.

- . Specific statewide educational issues which will face Arizona over the next twenty years, such as a growing minority population, increasing attrition rates, or the need for more elementary and secondary education teachers have not been formally addressed with respect to their funding implications. Consequently, questions about under- or over-funding will inevitably be followed by the question, "Compared to what?" With no clear measurable educational agenda, expected outcomes and measurement criteria will remain clouded and vague, and questions of equity and adequacy will remain largely unanswerable.
- . Lacking clear plans and priorities, the current funding process exacerbates tendencies to commit major current and future expenditures committed in a "hurry-up" mode without clear and compelling justification that they are in the best interests of the State or that they represent the State's highest priority choices for the allocation of scarce resources.
- . Arizona funding mechanisms provides few incentives for the three universities to maintain and achieve targeted areas of quality and excellence. The issues of quality and excellence are undefined at the state level and seem to be, simply, "Be all that you can be." Specific objectives are lacking, e.g., to enhance economic development of the state, to provide guarantees for future employment needs or to promote technology transfer.

EXECUTIVE SUMMARY . . .

While providing some stability and predictability for the universities, the present funding process tends to preserve historical funding inequities and establishes an environment promoting short-range decisions.

- . Despite distinctly different institutions, Arizona's funding process treats the three institutions homogeneously, allocating to each a "fair share" of what the state can afford.
- . Indexing institutional base budgets and providing faculty through the "22:1" formula provides an illusion of stability by accommodating enrollment growth and "equitable" distribution of funds. However, this formula does not differentiate between programs (chemical engineering versus English, for example), which have quite different per student and per faculty support costs.
- . The funding process paradoxically encourages and discourages growth. Base budgets are preserved only as long as enrollments are stable or increasing, thus promoting enrollment growth. Yet the formula provides only for faculty and limited faculty support, and does not adequately support the universities' associated infrastructure or administrative needs.
- . This process, coupled with recent state revenue short-falls, has exacerbated a "spend it or lose it" environment which promotes short-term, reactive decisions.

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EXECUTIVE SUMMARY . . .

Institutional spending autonomy is a hallmark of Arizona's universities and should be preserved.

- . The three universities have considerable freedom and flexibility in the management of their institutions. Their three-line appropriation is, in effect, a lump sum appropriation possessing a notable and appropriate absence of legislative restrictions or explicit legislative expenditure directives when compared to most other states.
- . This degree of university autonomy has been pivotal in allowing the universities to manage recent budget cutbacks. Their ability to easily transfer funds and manage vacancy savings has provided the latitude necessary to maintain services at an acceptable level in spite of massive and disruptive mid-year budget cuts.

While granted substantial autonomy, the universities are held largely unaccountable for the state's investment in them.

- . Beyond financial audits and excruciatingly detailed appropriations requests, there are few measures which hold the universities accountable and provide informed tracking of results against funded objectives. While financial audits and balanced budgets offer some assurances and demonstration of acceptable stewardship of assets, they do not attest to or assure efficient or effective use of these resources.
- . Recent movements toward accountability have tended to be ad hoc and idiosyncratic, lending the appearance of micro-management. The Board has asked questions which appear inappropriately detailed for their role as policymakers. However, the answers to those detailed questions have been perceived to be inadequate, thus increasing Board concerns about management and leading to even greater depths of specificity of inquiry--creating a vicious cycle.

EXECUTIVE SUMMARY . . .

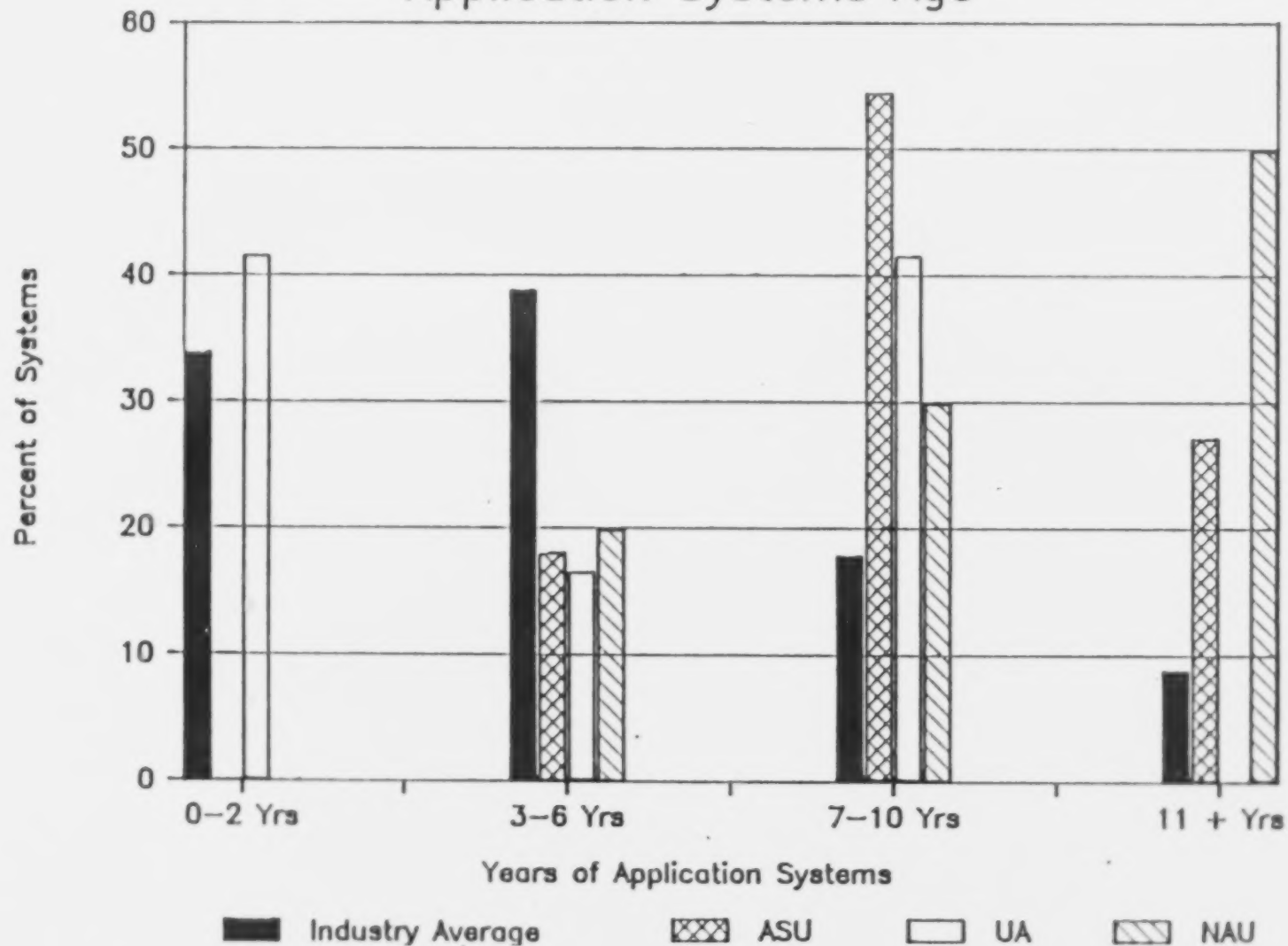
In summary, Arizona's higher education system is handicapped by a funding system which, lacking the "anchor" of a clear statewide vision, encourages short-term thinking, handles growth and retrenchment poorly and is insensitive to investment outcomes.

The opportunities for significant change in this area can only be exploited if a prerequisite condition is met: a clear vision and explicit priorities must be articulated for the future of the Arizona university system. The funding process must be linked to the achievement of this vision and promote the achievement of identified priorities. Unless these changes occur, progress toward the achievement of quality, equity, efficiency, effectiveness and accountability simply cannot be measured.

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Arizona Universities Application Systems Age



EXECUTIVE SUMMARY . . .

6. ASSESSMENT OF INFORMATION SYSTEMS AND TECHNOLOGY

Our management review of information systems and technology focused on the use of computers, information systems, and telecommunications to support the administrative activities of the Arizona universities. Our assessment is summarized below.

Administrative information systems which support university business operations have not kept pace with user needs for timely and accurate information, causing user abandonment of central systems, duplicative efforts and high maintenance costs.

- . The universities spent over \$27 million in 1986-87 on computing services to support research, instructional and administrative activities. In addition to these formally identified expenditures, significant expenditures are being incurred for computers and systems professionals by individual departments.
- . The systems at all three of the Arizona universities were designed in the 1970's to meet the transaction processing requirements for specific departments. They were not designed to provide management and decision support information to a larger audience. As a result, many departments in the universities are relying less and less on the information contained in the central computer systems, and are maintaining duplicate records on personal computers or paper files.
- . The aging of the administrative applications in the Arizona universities, very high percentages of time being spent in maintenance activities, and significant maintenance backlogs indicate the universities are probably spending too much on maintaining these old systems.

APPLICATION SYSTEMS DEVELOPMENT AND IMPLEMENTATIONS

	Age In Years			Plans to Replace?			Estimated Costs (000's)		
	ASU	UA	NAU	ASU	UA	NAU	ASU	UA	NAU
1. General Ledger	13	10	12	88	88	91	\$2900	\$700	\$1700
2. Accounts Receivable	10	10	3	?	88	91	-	\$700	See Gen. Ledger
3. Accounts Payable	13	10	12	88	88	91	See Gen. Ledger	\$700	See Gen. Ledger
4. Student Records	7	1	7 *	no	N/A	no	-	-	-
5. Admissions	8	1	8 *	no	N/A	no	-	-	-
6. Registration	7	1	7 *	no	N/A	no	-	-	-
7. Purchasing	13	9	12	88	89	91	See Gen. Ledger	\$600	See Gen. Ledger
8. Payroll	8	8	11	90	no	90	See Human Resources	-	\$900
9. Human Resources	8	6	-	90	no	90	\$1900	-	See Payroll
10. Budget	6	4	11	no	no	91	-	-	See Gen. Ledger
11. Student Billing	See Accts Rec.	1	See Accts Rec. *	no	N/A	no	-	-	-
12. Financial Aid	5	2	5 *	no	N/A	no	-	-	-

* Acquired from ASU two years ago

Over \$10 Million Investment

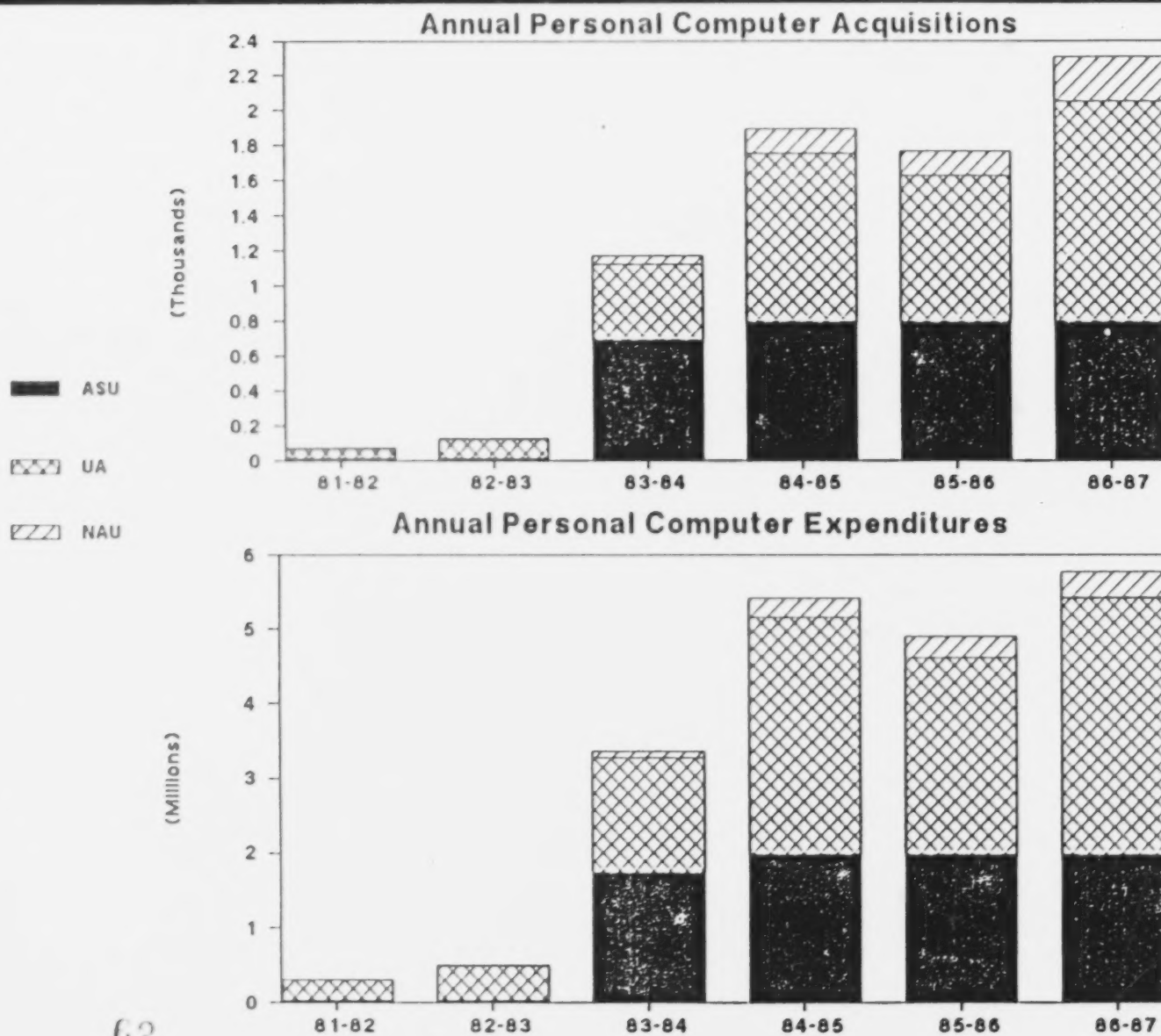
EXECUTIVE SUMMARY . . .

The universities are not strategically planning their information systems and computing services to directly support their business goals and objectives.

- . In response to their increasingly obsolete systems, the universities are investing a combined \$10 million in major efforts to replace selected administrative information systems. These major projects merit independent implementation reviews for the purposes of controlling risk and insuring that the systems will ultimately meet user requirements.
- . Long-range planning for information systems at the Arizona universities is operational and budget driven rather than strategic.
- . Information systems plans which do exist generally cover only a one to two year timeframe, lack a linkage back to university objectives or long-term goals, and do not provide for the expectation and management of technology change.
- . Inadequate attention is being paid to integration of application systems and databases. Data administration policies related to the creation, "ownership," and management of university data resources are only in their infancy.

The rapidly increasing use of personal computers is stimulating the need for new management and data administration policies on the three campuses.

- . In 1982, the three universities together owned just 200 personal computers. Today they own 8,200 and have invested over \$21 million in these assets over the last five years. However, management of these assets is fragmented and uneven at each of the universities. For example, Arizona State University has developed good organizational capabilities to support end-user personal computing, but such support is weak to non-existent at Northern Arizona University and the University of Arizona.



EXECUTIVE SUMMARY . . .

- . University databases are not easily accessible to faculty and staff for personal computing. Data must frequently be manually re-entered and separately maintained, resulting in losses of data integrity, and duplication of effort. Electronic mail systems are installed at all three campuses, but are underutilized. Access to electronic mail is often restricted to upper management. Clerical staff and individual faculty members--who might benefit the most from paperwork reduction and accelerated communications--must rely on superiors' systems and paper-based interoffice mail networks.

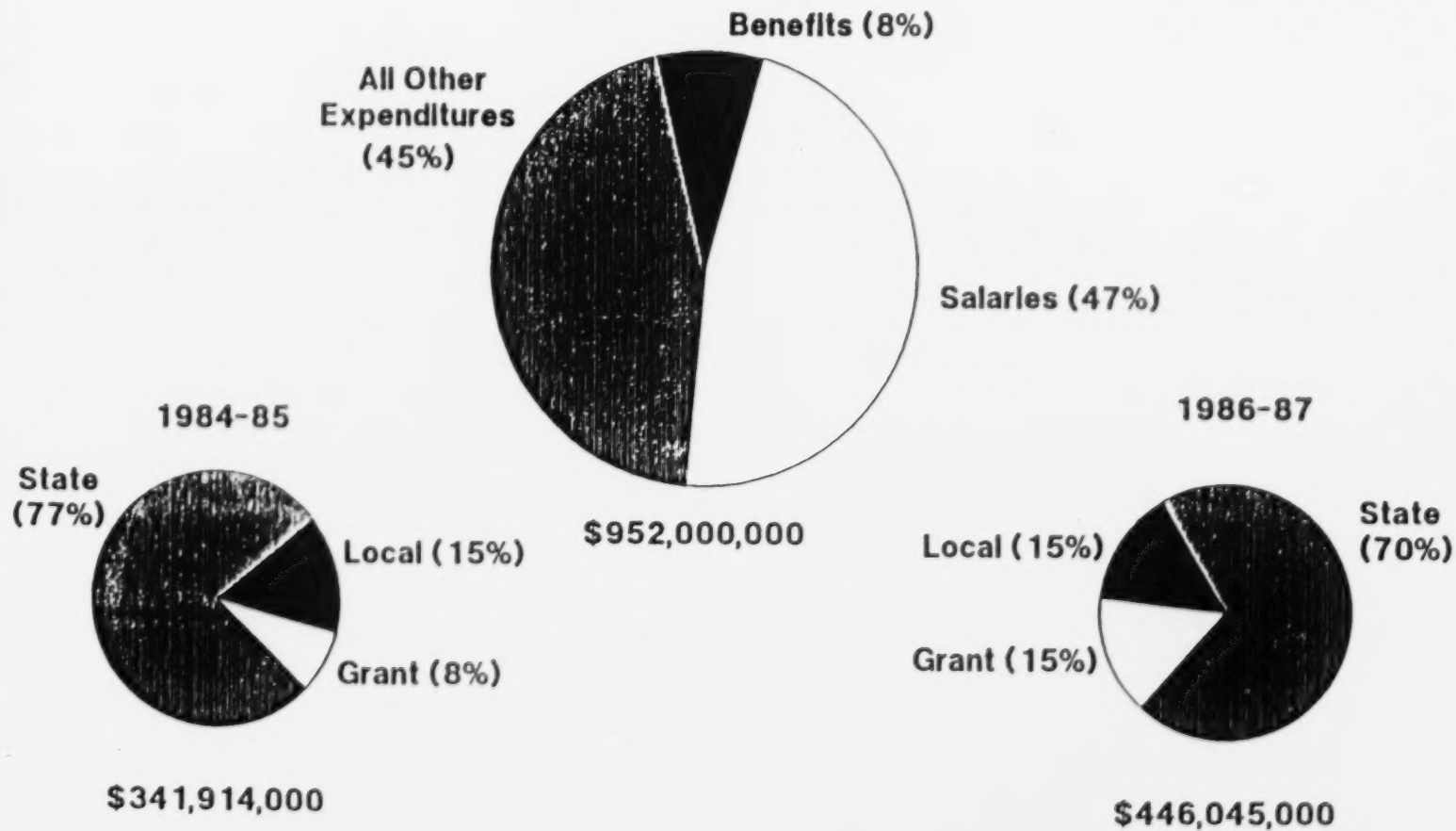
The universities have only recently begun to collaborate in the area of telecommunications.

Since the break-up of AT&T, each of the Arizona universities has made major changes in its telephone systems and data communications. However, these activities were undertaken independently by each university, and as a result three separate systems were procured.

The State of Arizona is currently developing requirements for a statewide telecommunications network for voice, data and video communications. A commendable system level effort has been undertaken to identify opportunities for the universities to make the best use of this planned state network.

In summary, information systems at the Arizona universities are being planned and implemented tactically, not strategically. An operational, budget-driven systems planning emphasis coupled with inadequate attention to implementation risks, user needs, and integration to support the evolution of the university as a whole is exposing the universities to undue risk that future systems will not meet future needs.

The Arizona Universities Employee Salaries by Funding Source 1986-87



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EXECUTIVE SUMMARY . . .

7. ASSESSMENT OF HUMAN RESOURCES MANAGEMENT

Our management review of human resources focused on both system level and university personnel policies and practices involving the planning, budgeting, deployment, and control of resources which represents the universities' largest single object of expenditures. Our assessment is summarized below.

The Board lacks a comprehensive human resources philosophy for all employee groups.

- . In 1986-87, the Arizona universities spent over \$446 million on wages and salaries and another \$73 million on employee benefit programs for its 17,000 employees. This represents over half the universities expenditures for all purposes, yet no coordinated systematic approach to managing these resources exists.
- . This has resulted in a fragmented, inefficient and risky approach to managing this crucially important resource and is resulting in inconsistency of job assignments, outdated classification descriptions and probably an excessive number of job classifications.
- . The Board's human resources policies focus primarily on a systemwide view of classified staff. Policies related to management of non-classified personnel, especially administrative and non-faculty professionals, are spotty and uncoordinated.
- . The most significant impact of this lack of a systemwide philosophy is that no coordinated mechanism exists for setting compensation levels relative to other universities and businesses in the same labor market for non-academic professionals or administrative employees. This may be resulting in inconsistencies in compensation levels for specific positions across the universities, which in turn could be detrimental to employee morale, could result in excessive compensation costs, and could expose the universities to unwarranted risk.

EXECUTIVE SUMMARY . . .

The Board and each of the universities lack rudimentary capabilities in the area of position control and manpower planning.

- . Despite the fundamental significance of human resources to overall budgets and operations, no systematic process exists to demonstrate or evaluate whether budgeted human resources reflect the actual staffing requirements of the universities.
- . The current position budgeting approach does not promote strategic reassessment of human resource needs or strategic planning to meet these needs. Rather than budgeting positions based on trends in enrollment, type of programs or other performance or output indicators, staffing projections are primarily based on prior year staffing levels.
- . Inadequate position control can also cause duplication of efforts between departments, or gaps in which certain necessary functions fail to be performed.

Personnel management and recordkeeping processes at all three universities are generally fragmented and inefficient.

- . Each of the universities has established its own methods for dealing with recordkeeping requirements as needs have arisen. This is resulting in duplicative personnel management activities being performed in a multitude of departments throughout each university. For example, a significant number of employees are involved in the manipulation and processing of personnel data, including employees in personnel, finance and institutional research offices, as well as in individual "customer" departments themselves.

EXECUTIVE SUMMARY . . .

- . The use of home grown recordkeeping systems and the fragmentation of human resource responsibilities in areas such as recruiting/applicant tracking, compensation and employee benefits could also result in risks associated with inadvertent non-compliance with the numerous and highly technical laws and regulations governing personnel management.
- . Considerable criticism was directed by users regarding each university's ability to recruit and hire appropriate personnel quickly and reclassify jobs in a timely manner. This problem appeared to be especially acute in terms of its impact on sponsored research projects.

Administration of employee benefit programs, which account for eight percent of all university expenditures, could probably be made more cost-effective.

- . The Arizona universities benefit programs are currently administered through the State Department of Administration on a fully insured funding arrangement. Businesses or organizations employing over 300 employees often find it economically advantageous to fully or partially self-insure dental and medical benefits.
- . Despite the number of employees currently participating under the health and dental benefit programs, to the best of our knowledge, no independent audit of claims has been conducted to determine the accuracy of payments in accordance with programs and policies. In our experience, such claims audits typically uncover payment errors in the range of several percent of total claims paid.
- . No review of the administration costs of the universities' medical cost containment programs has been to evaluate whether such costs might be exceeding the savings from these programs. Additionally, a high penetration rate of health maintenance organizations (HMOs) could adversely affect financial performance of the "fully insured" medical and dental plans.

EXECUTIVE SUMMARY . . .

In summary, human resources management issues, in general, are not receiving the attention called for by the critical importance of "the human factor" to both university operations and university budgets.

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ARIZONA UNIVERSITIES PHYSICAL RESOURCES

Ten Year Comparison

<u>Fiscal Year 1976-77</u>		<u>Increased By</u>	<u>Fiscal Year 1986-87</u>
\$27 Million	Budget	120%	\$60 Million
\$890 Million	Replacement Value	80%	\$1.6 Billion
713	Buildings	17%	833
12.1 Million	Gross Square Footage	45%	17.6 Million
1,227	Physical Resource Staff	11%	1,358
61,600	Student FTE	10%	67,900

EXECUTIVE SUMMARY . . .

8. ASSESSMENT OF PHYSICAL RESOURCES MANAGEMENT

Physical resources management at the Arizona universities is a \$60 million dollar a year operation responsible for the care, upkeep, and renovation of 800 buildings sited on almost 2,000 acres of land with a combined estimated replacement value of \$1.6 billion dollars. The Physical Resources Departments at the three universities employ approximately 1,300 people ranging from custodians and grounds-keepers to highly qualified specialists and administrators. Our assessment of this area is summarized below.

The timeliness, productivity and customer relations of physical resources departments at all three universities could be improved with automation, performance standards, and better communication.

- . Existing work estimating and job tracking systems are inadequate in light of industry norms. Large work backlogs exist in some trades, yet no outlets exist for peak workload demands other than expensive overtime and very limited contracting out. Very few estimates of overall backlogs for specific trades are being made. Consequently, the volume of outstanding work is not being adequately measured, staffing requirements are unknown and planning and scheduling of jobs and staff resembles a "firefighting" exercise.
- . "Customers" of physical resource departments at all three universities expressed concern about high costs, long lead times, lack of a "service orientation" and the efficiency of physical resource functions.
- . An absence of rudimentary performance standards and performance measures hinders evaluation and control of the universities' physical plant management functions. The written objectives of the departments are largely qualitative in nature and do not address specific quantitative objectives of timeliness and responsible cost. As a result, performance measures and reporting are not widely in place to monitor and control productivity, quality, timeliness and cost or to support priority setting.

Physical Resources Automation

	Automation		
Description	ASU	UofA	NAU
Work Order Management	●	●	●
Scheduling	◐	●	◐
Preventive Maintenance	◐	⊗	⊗
Energy Management	◐	◐	◐
Customer Chargeback	◐	◐	◐
Space Planning	◐	●	◐
Space Scheduling	○	○	◐
Deferred Maintenance	○	○	○
Locksmith	⊗	○	●
Performance Reporting	○	○	○



Good to Excellent



Poor to Fair



In Progress



Not Automated

EXECUTIVE SUMMARY . . .

- . Automation has been used extensively in some physical resources areas, while other areas remain dependent on manual operations. The chart on the facing page is a summary of the extent to which key specific functions are supported by automation at each of the universities.

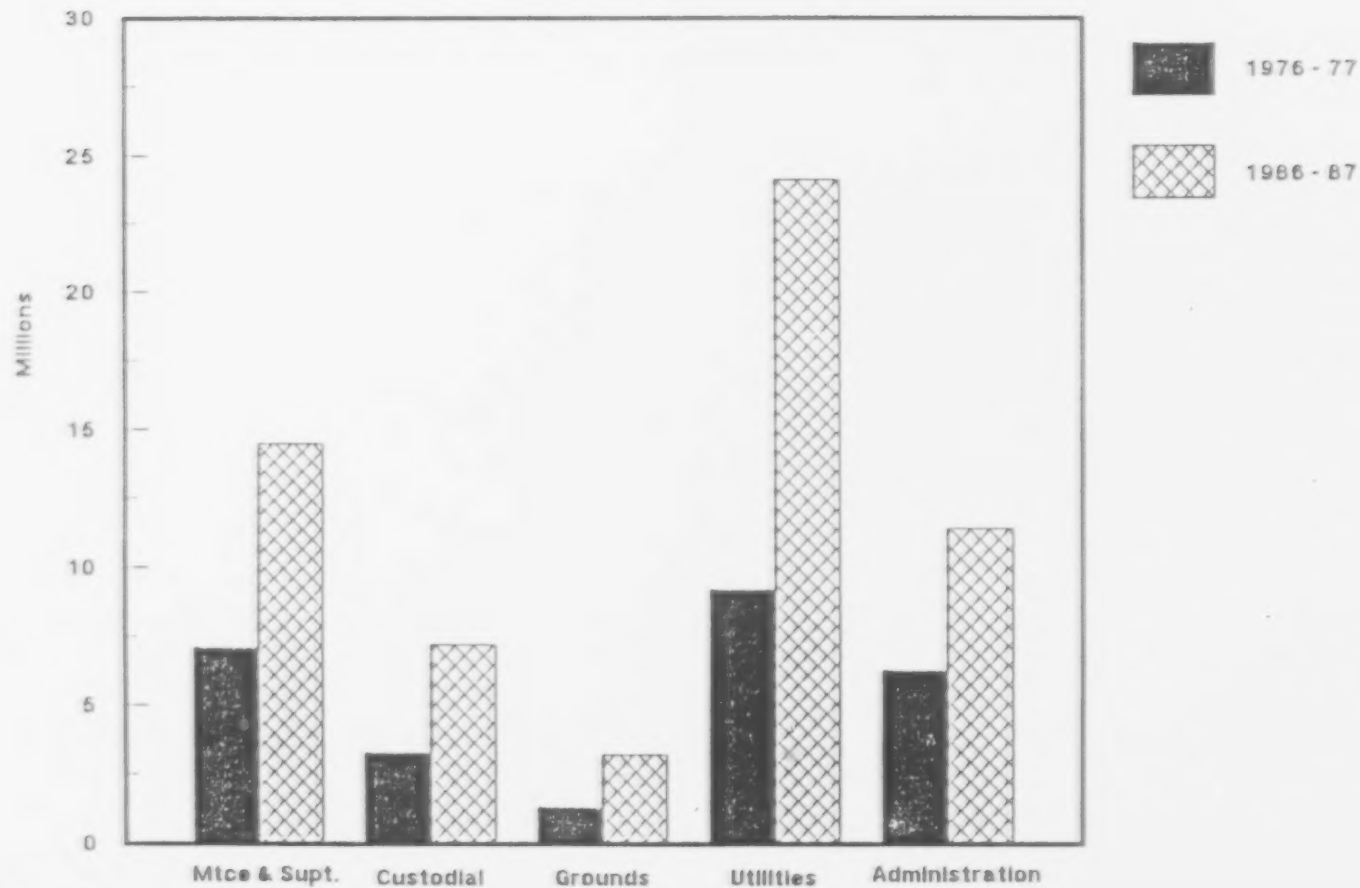
According to one "rule of thumb" estimate, the Arizona universities are annually underfunding physical plant maintenance by nearly \$4 million, thus contributing to an ever growing accumulation of deferred maintenance which could exceed \$80 million when finally measured.

- . The actual severity of this problem is unknown because the universities' current abilities to measure deferred maintenance are, at best, mixed. Northern Arizona University is the only institution which has completed an objective assessment of its deferred maintenance problem to date, and has estimated the scope of the problem to be nearly \$19 million, or 6% of NAU's estimated replacement value.
- . Commendable efforts are now under way to measure and fund the facility deferred maintenance problem through the establishment of a university "building renewal program" in 1985. However, this program could be inadequate when final deferred maintenance amounts are tallied for all universities. At current rates of building renewal funding, it will take years to reduce this liability while continuing to fund the annually recurring preventive maintenance requirements at an appropriate level.

Unnecessarily low thresholds imposed by state statute requiring the competitive procurement of outside maintenance and repair services are wasting the universities' time and money.

- . The human efforts and time delays associated with bid document preparation for very small jobs may be costing, in some cases, as much as the contracted work itself.

Arizona Universities Physical Plant Budget Growth - 1976-1986



EXECUTIVE SUMMARY . . .

- Management has no flexibility to determine whether certain jobs over \$10,000 could be more efficiently accomplished in-house or contracted out.
- Many major public universities in other states impose no such dollar limits on the internal performance of required work by physical resources departments.

The 'universities' space management capabilities vary widely.

- The institutions are responsible for the efficient utilization of nearly 18 million gross square feet and 11 million net assignable square feet of classroom and other facilities. However, little relevant information is maintained or analyzed regarding the types and sizes of facilities available at Northern Arizona University and Arizona State University.
- The University of Arizona was the only university which could demonstrate an adequately functional space inventory and space management capability. ASU and NAU have each begun projects to upgrade their space management capabilities but neither university has consulted with the University of Arizona to review the capabilities or design of its space management system.

The lack of automation to support classroom scheduling functions is increasing the difficulty of efficient space and classroom utilization, and inhibits informed decision making with respect to building new buildings or demolishing old ones.

- Classroom scheduling at all three of the Arizona universities is a highly manual, paper-intensive and change-driven process.

EXECUTIVE SUMMARY . . .

- . The allocation and re-allocation of thousands of classrooms to accommodate thousands of classes is therefore a zealously guarded departmental asset. Departments tend to retain their space, even if enrollment in courses drops or the size of the department decreases. This tendency is due, in part, to the lack of adequate information related to the true costs of space utilization and to accounting and budgeting systems which treat space as a "free good".
- . The cumulative effect is underutilization and ineffective utilization of classroom and seminar spaces.

In summary, while a number of strategically important improvements are occurring in the Board's and universities' approach to planning, managing and maintaining their physical resources, significant opportunities for improvement still exist and should be vigorously pursued.

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Procurement Activity Comparisons Fiscal Year 1986-87

Activity	Arizona State University	Northern Arizona University	University of Arizona	Total
Purchase Order Transactions Processed	17,260	9,572	34,650	58,990
Purchase Order Dollar Volume	\$77,866,000	\$8,981,000	\$78,470,000	\$166,336,000
Buyers	8	3	6.6	17.6
Avg. Purchase Order Volume per Buyer	2,160	3,191	5,250	----
Avg. Purchase Order Dollars per Buyer	\$9.7 million	\$2.9 million	\$11.8 million	----

EXECUTIVE SUMMARY . . .

9. ASSESSMENT OF PROCUREMENT

In fiscal year 1986-87, the Arizona universities procured over \$220 million in goods and services in support of academic, administrative and research activities. Their procurement processes should be providing cost-effective and timely delivery of goods and services for academic, administrative and research activities, and should be providing overall control over non-personnel operating expenditures. Our assessment of the procurement function is summarized below.

There is no overall management of the procurement process "as a whole" at any of the universities.

- . While the purchasing function is centralized at each university, the process for managing procurement transactions and expenditures involves a variety of departments within several organizational divisions of each university.
- . Each department within the process performs certain activities which contribute to overall result, but "customers" must locate and deal with several individual components of the procurement process to fulfill basic procurement needs and resolve problems.
- . This type of procurement process is fundamentally a control system that happens to provide a service, rather than a service system with built-in controls. As one might expect, the resulting primary complaint of "customers" at all three universities is the inability of existing procurement systems to respond to their needs on a timely basis.

Procurement Automation

Description	Automation		
	ASU	UofA	NAU
Purchasing Requisition Tracking	☒	☐	☒
Purchase Order Tracking	☐	☐	☒
Vendor Tracking	☐	☐	☐
Inventory Tracking	☒	☒	☒
Interface with Accounts Payable	☐	☐	☐
Interface with Accounting	☐	☐	☐
Management Information	☐	☐	☐
Accounts Payable	☐	☒	☐

☒ Automated

☐ Manual

EXECUTIVE SUMMARY . . .

The purchasing functions of the individual universities are overly dependent on manual, paper-intensive systems which cause unnecessary effort and delay, and which provide inadequate information and performance measurements for the procurement process.

- . The process tends to deal with requisitions sequentially and has difficulty sorting transactions according to size, importance, and/or complexity. The process is thus mired in paperwork and desktop bottlenecks, diminishing both customer service and buying effectiveness.
- . Senior management has historically assigned a low priority to paperwork reduction and process efficiency through the automation of purchasing in comparison to other automation projects. Rudimentary departmental management information in the procurement area is therefore either unavailable or very difficult to collect, resulting in management based on "gut feel" rather than on facts.
- . A lack of sufficient management information is also impeding the universities' ability to manage vendor relations.

All of the purchasing departments have taken some positive steps to improve customer service through limited dollar purchase order systems and check-with-order systems, which are designed to reduce the amount of time and paperwork involved to purchase high-volume but low-dollar goods.

In summary, fragmented control-oriented and paper-bound procurement systems are hampering overall university effectiveness by placing troublesome and time consuming barriers in the path of the day-to-day business of faculty, staff and administrators.

Relationship of Improvement Opportunities

-- Systemwide --

Strategic
Importance

High

Moderate

Low

•
Funding

•
Organization,
Planning and
Information

- Information Systems
- Human Resources

•
Physical
Resources

- Procurement

Low

Moderate

High

Improvement Potential

EXECUTIVE SUMMARY . . .

10. SUMMARY ASSESSMENT

The chart above portrays our summary assessment of the extent of improvement opportunity and the potential impact of improvements in each of the areas we reviewed. It is presented to give some sense of the relative priority to be attached to solutions, as discussed below.

Organization and planning weaknesses are the systems' most serious problem.

- . The Arizona university system must address two fundamental weaknesses which override all others in terms of their overall impact: the lack of an articulated strategic vision for the future, and the ill-defined organizational roles, responsibilities and expectations of the participants in the system.
- . As the Arizona universities enter a challenging and complex future, this simultaneous absence of "rules of the game" and "roles of the players", if left unaddressed, will hinder their pursuit of excellence, continue to result in inefficient and ineffective decision-making, and ultimately make the universities less competitive.
- . Only after these two problems are solved can the system fully and adequately address problems in the funding process, statewide information and accountability requirements, and the linkage of budgets to plans and performance.
- . While we found many opportunities for improvement in the specific administrative functions we reviewed, we found no "buckets of fat", and no systemic or widespread inefficiency.

EXECUTIVE SUMMARY . . .

. In fact, we found dedicated, highly capable and energetic managers, executives, Board members and volunteers who were devoting enormous amounts of time, energy and talent in efforts to solve the day to day problems and issues facing these complex institutions. Many were engaged in "catch up" efforts to replace or streamline old systems, procedures and ways of doing business which the universities and the system outgrew long ago and which are badly in need of replacement.

Improvements in administrative systems statewide and at the individual universities are not, however, dependent on a solution to these statewide problems.

- . Most of the management problems described in the preceding pages fall into four basic categories:
- .. Impediments to functional effectiveness or cost effectiveness caused by specific rules and procedures, patterns of organization, or the inadequacy of plans and standards
 - .. Process or cost inefficiencies caused by duplication, excessive paperwork, or lack of coordination
 - .. Unmeasured financial or legal risks associated with inadequate controls, poor information, or lack of coordination and attention to critical issues; and
 - .. Inadequate linkage between resource management practices and the mission and goals of the universities.

EXECUTIVE SUMMARY . . .

- . Improving the way university information systems are planned and implemented will have the greatest overall impact on the efficiency and effectiveness of the universities. These systems are becoming increasingly important components of the organizational infrastructure of the universities; in the future, they will be more important than organization charts. The strategic planning and design of the architecture of these information systems is critical to ensuring that the systems evolve in concert with and reflect the strategic goals and objectives of the university as a whole, as well as the statewide goals and objectives of the Arizona university system.
- . Improvements in human resources management are also likely to have a major impact in terms of risk reduction and improved linkage to strategic goals. The Board and the universities must elevate their appreciation of the overwhelming and preemptive importance of the human factor to the excellence, efficiency and competitiveness of the universities.
- . Improvements in physical resources management and procurement functions at the three universities will have their greatest impact in the areas of process efficiency and cost effectiveness.

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EXECUTIVE SUMMARY . . .

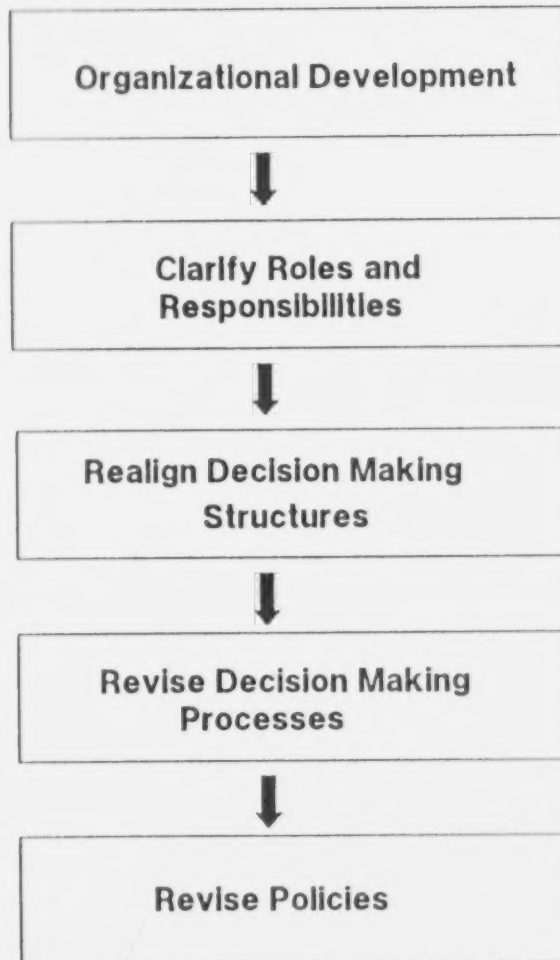
11. SUMMARY RECOMMENDATIONS

Five fundamental changes need to occur for the Arizona university system to more effectively pursue statewide excellence, efficiency and competitiveness.

- . The Board of Regents should immediately undertake a project to rationalize system level organization and decision-making structures and processes.
- . The Board should express a strategic vision of the future of Arizona higher education and develop a long-range strategic plan.
- . Board level information and performance measurement capabilities should be developed to support strategic decision-making, to monitor implementation of a strategic plan, and to promote accountability.
- . The State of Arizona should re-evaluate the higher education funding process in light of a strategic plan and should develop incentives which promote the achievement of strategic goals.
- . The Board and individual universities should undertake a number of projects to improve specific resource management practices in key areas in order to reduce expenditures, increase value, reduce risk, and promote strategic goals.

Each of these recommendations is summarized in the pages which follow.

ORGANIZATIONAL IMPROVEMENT IMPLEMENTATION PRIORITIES



EXECUTIVE SUMMARY . . .

12. RECOMMENDATIONS FOR SYSTEM LEVEL ORGANIZATION

The Arizona Board of Regents should immediately undertake a project to clarify and document organizational roles and responsibilities and to streamline its decision-making processes.

- . A survey of Board members and the Council of Presidents should be designed and conducted to address the roles and responsibilities of each of the organizational entities comprising the Arizona university system. This survey should be compiled and presented to the Board and Council of Presidents as the initiating activity of an organizational development retreat at which the Board should agree upon and write down a set of high level goals and objectives for its state level organization and decision making structure.
- . Once objectives have been defined, the Board should undertake the detailed design and implementation of structural and procedural improvements to meet these objectives. This "organizational design" activity should be undertaken in three overlapping stages, focusing first on the decision-making, advisory and implementation, roles and responsibilities of participants, then on processes, and finally on a comprehensive revision of formal policies and procedures.
- . The Board should use outside experts to assist it in implementing this recommendation to increase the likelihood of timely implementation, general acceptance, and perceived fairness and objectivity.

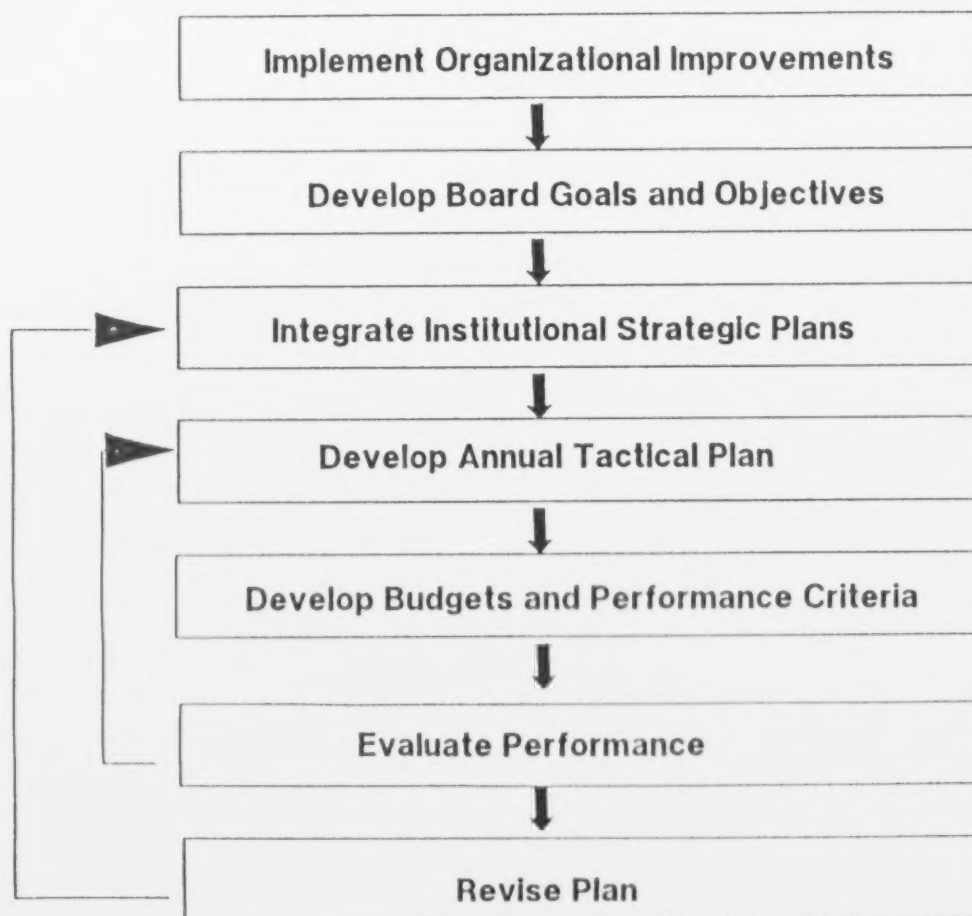
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EXECUTIVE SUMMARY . . .

While organizational design was outside the scope of this project, we offer the following related recommendations:

- . The Council of Presidents organization should be developed and its role and responsibility as an implementation focal point should be emphasized.
- . The number of standing Board committees should be reduced, the Board should make more use of goal-oriented "task groups", and individual Board members should be assigned "oversight specialist" roles in selected areas of interest to the Board.
- . The practice of routinely "staffing" Board committees with executive staff councils should be discontinued. The Executive Director of the Board should be made the focal point for organizing resources to satisfy committee staffing requirements and such requirements should be carefully and continually monitored with respect to their cumulative impact on individual time commitments.
- . The Council of Presidents should reevaluate the structure and purpose of all current executive staff councils and inter-university workgroups after the preceding recommendations have been implemented.
- . The tradition of one year terms for the Board President should be objectively reevaluated. In our opinion, the costs of this traditional practice outweigh its benefits.
- . The Board Central Office should improve the documentation related to its internal functions, policies and procedures.
- . The Board should experiment with teleconferencing in lieu of travel for inter-university committees, Board committees, and staff councils.

STRATEGIC AND TACTICAL PLANNING IMPLEMENTATION SEQUENCE



13. STRATEGIC PLANNING RECOMMENDATIONS

The Arizona Board of Regents should express its vision of Arizona's future and the related role the Arizona universities, develop a formal strategic plan for the Arizona university system, and annually develop tactical, measurable statewide work programs and budgets related to the strategic plan.

- . The first step in developing a strategic agenda for the Arizona Universities will require the Board to express its vision of Arizona's future and the appropriate role of the Board and the universities in that future, addressing such issues as technological change, demographical change and forecasted economic trends.
- . The next step should involve the formulation of strategic Board level goals for the Arizona university system. Examples include, "Demonstrate equity and ensure access," or "Ensure continual improvement in quality of education".
- . Once such goals are established, a set of intermediate, measurable, time-sequenced objectives should be developed to support the achievement of each goal. Examples of such objectives might include, "Double minority admissions by 1995," or "Reduce deferred maintenance backlog to zero by the year 2000".
- . Individual long-range plans should then be developed by each university to reflect these objectives.
- . After goals and objectives are identified, and university plans developed, strategic indices for measuring progress (e.g., admission targets, trends and ratios) should be developed for the system as a whole and for each university.

EXECUTIVE SUMMARY . . .

- . The final step in the strategic planning process should involve the formulation of specific action strategies for the Arizona University System as a whole and for each of its principal components.
- . After the strategic plan is published, the Board should meet annually in a "tactical planning retreat" to develop an annual program of work which supports the implementation of the systemwide and university strategic plans. Such a program of work should consist of a prioritized listing of projects for each component entity which the Board expects to be completed within the planning year. The program of work developed during this "tactical planning retreat" should be the first step in the development of all-funds budgets for the Universities and the Board for the planning year in question.
- . Periodically, perhaps every three to five years, the long-range strategies should be evaluated and revised as appropriate. These strategies are likely to have significant organizational implications over time. After plans have been developed and implementation has begun, the Board should periodically revisit the steps outlined in the organizational improvements recommendations.

14. RECOMMENDATIONS ON SYSTEM LEVEL INFORMATION MANAGEMENT

The Arizona Board of Regents should develop state level information management and performance measurement capabilities to support strategic decision-making and to promote accountability.

- . The Board can improve its effectiveness significantly by focusing its attention on critical decision areas, by routinely watching strategically important trends and key indicators (e.g., faculty salaries in comparison to peers), and by routinely monitoring performance in those areas that are crucially important to the success of its institutions.
- . The Board should undertake a project to define and prioritize the characteristics of the specific decisions it must make, and to define a limited number of key relevant indicators to be produced by its staff which will serve to support these decision-making activities.
- . Major demographic, financial and performance information should be made part of a limited set of information (e.g., student, staff, facility and program information) to be reported from each institution to the Board of Regents. The Board should work with the universities to determine report content and format and to eliminate inconsistencies in definition to allow uniform statewide reporting and to facilitate consolidation.
- . Financial and performance reporting in particular should be improved. Specifically, the Board should receive better reports related to budget reallocations, the comparative costs of various programs, and long range financial plans.

RECOMMENDED LINKAGES



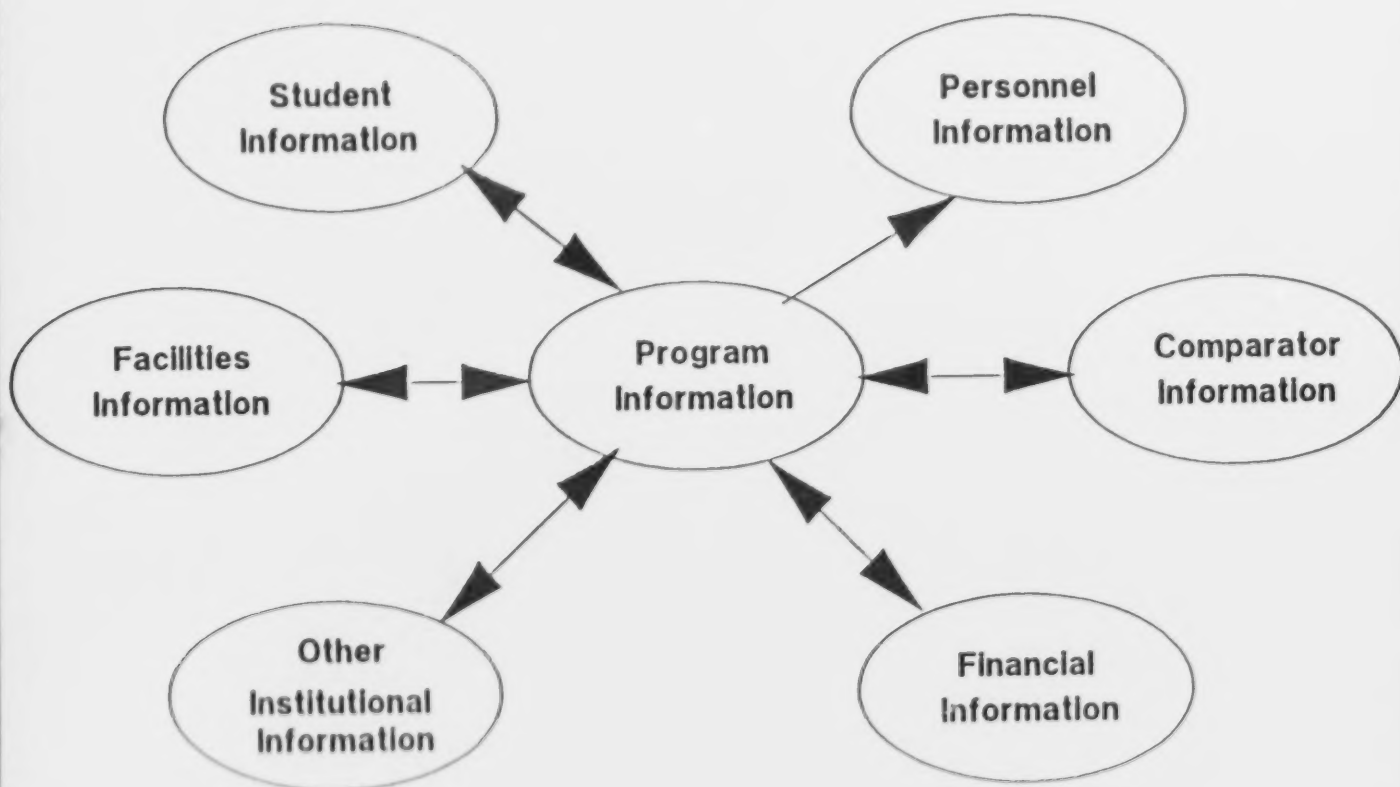
EXECUTIVE SUMMARY . . .

- . The Board should develop capabilities to demonstrate linkages between budget development and its strategic goals, the measurement of unit performance, and periodic program evaluations and reviews. Furthermore, the universities should develop capabilities to demonstrate to the Board, and the Board to the Legislature that budget proposals reflect the results of program review recommendations, that they are consistent and explicitly related to strategic goals and objectives, and that performance standards and measurements have been developed which are linked to the budget process and which satisfy university and Board standards for efficiency and effectiveness (e.g., one janitor per 20,000 square feet x one million square feet = budget for 50 janitors).
- . The Arizona Board of Regents should prepare and disseminate an annual assessment of the status and performance of the Arizona Universities. This report should be distributed to both the Arizona Legislature and to each of the institutions annually.
- . The Board Central Office should play the pivotal role in collecting and disseminating Board-level financial reports, performance indicators, and statewide decision support information. To play this role, the Central Office must significantly improve its information management capabilities.

The Board Central Office should develop information and research capabilities to facilitate "in house" comparative analysis of the Arizona university system and to minimize demands on the universities for such information and research.

- . The Board should undertake a project to design and implement an automated information management system for the Central Office to increase accountability, improve coordination, reduce paperwork and streamline decision-making processes at both the Board and university level.

Components of a Decision Support Information System for The Arizona Board of Regents



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- . The system should require the universities to produce and submit standardized data files in a format specified by the Board, but should not specify the systems by which the universities produce such files. We see no need for Board level "on-line" access to university information systems.
- . The system should be designed to be updated with new university submissions only infrequently, and should be designed in collaboration with the universities to ensure that unreasonably expensive reporting requirements are not built in.
- . The Board Central Office should establish an office library to support institutional and historical research related to the Arizona universities and other institutions of higher and public education and state government.
- . The Board Central Office should employ a Chief Information Officer responsible for implementing and maintaining the system and the library described above, as well as providing guidance and advice to both the Board and the universities in the areas of system-level data management, data administration, and management information system implementation.

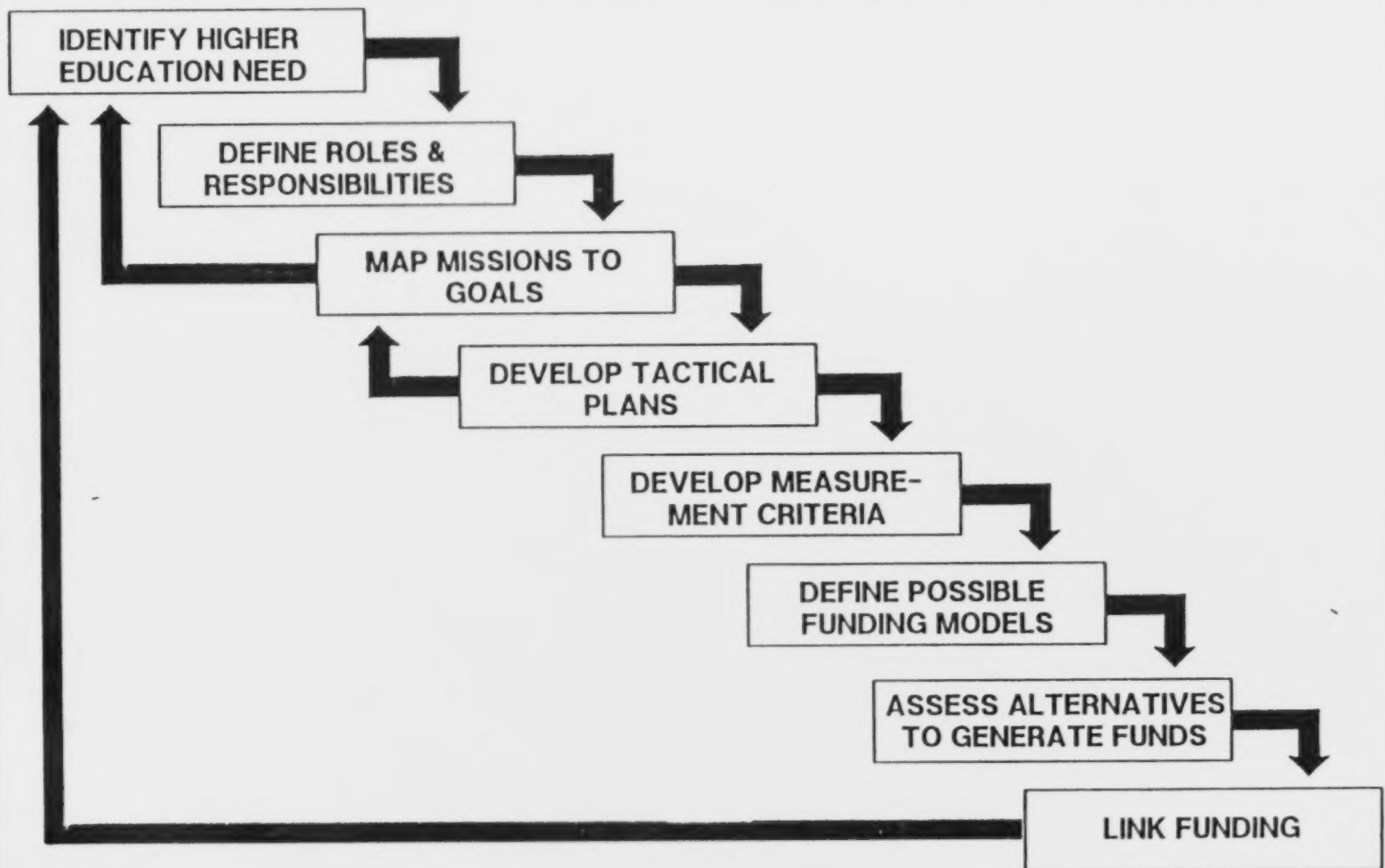
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STATE OF ARIZONA DEVELOPMENT OF FUNDING FRAMEWORK FOR CHANGE



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15. FUNDING AND APPROPRIATIONS RECOMMENDATIONS

The current funding process should not be changed until a clear state agenda for university education in Arizona has been developed.

. . We do not recommend major changes to the present funding approach because we believe any funding mechanism must be an integral component of statewide goals and plans. Absent those goals and plans in Arizona, modifications to the existing funding mechanism would be rash. However, this recommendation should not be construed as an endorsement of Arizona's existing approach to funding its universities.

. Arizona's funding process must be thoroughly reevaluated after the state's goals and aspirations are defined.

.. Based on an environmental assessment, clearly articulated objectives and priorities should be established on a statewide basis, as outlined previously.

.. Given these objectives and priorities, the current system for funding the universities must be assessed in terms of its ability to achieve them.

.. Gaps in the current process must be identified and the essential requirements of a modified funding system must be developed.

.. Alternative revenue sources such as private giving or resource endowments must be identified and analyzed.

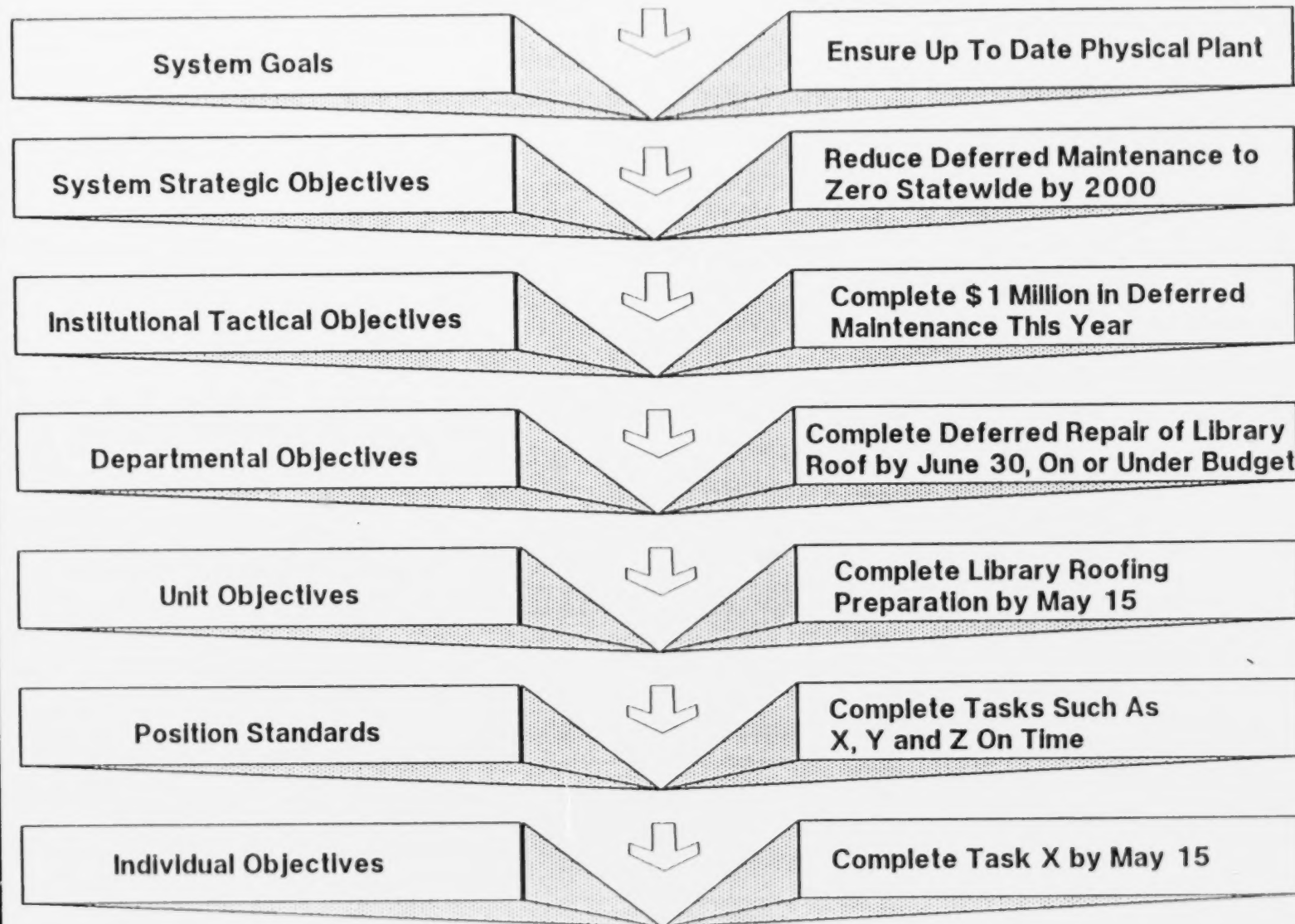
.. Finally, given all of the above, the funding process must be redesigned or modified to support state and institutional goals.

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The following gaps and weaknesses in the current funding process should be addressed.

- . In light of recent budget cuts and greater competition for resources, the regents and the legislature must promote stability by providing stronger buffers against either enrollment declines or "automatic" growth. Base budgets should become more predictable to discourage short-term thinking and to minimize mid-year adjustments.
- . The funding of institutional growth should be rationalized based on cost and program requirements. Funding formulae should move beyond "22:1" to give consideration to incremental support staff, differences in academic program characteristics or student levels, and required equipment.
- . The allocation of decision packages, bonding authority and capital outlay funding should be in support of statewide and institutional objectives rather than the traditional 2:2:1 approach. Statewide priorities should take preference over the traditional "equity" approach to funding the three universities. At a minimum, all or a portion of the decision package dollars should be placed in a competitive pool as incentive funds to each institution in light of statewide priorities.
- . Improved buffers should be established to protect the universities from planned and unplanned enrollment declines. An institution planning an enrollment cap in the interest of educational quality or campus life should not be made to suffer automatic diminution in faculty.
- . In the interest of stability and fairness, the Regents should examine their philosophy regarding tuition for out-of-state students. Other states, such as Colorado, have not experienced declines when "full cost" out-of-state tuitions were established.

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The current level of institutional autonomy is one of the major strengths of the Arizona university system and must be encouraged and preserved in any funding approach.

To decrease overall reliance on state funding, incentive programs to increase private giving (e.g., state matching) should be created and implemented. Programs which encourage the universities to increase and retain funds should also be developed. Examples include: allowing unused fund balances to be carried forward to the next year without an offset and establishing more flexible tuition pricing practices.

Greater accountability measures should be developed through performance monitoring and reporting.

If the institutions are to have freedom and flexibility in managing their operations, they should expect to be held accountable for the uses of those funds and their performance in executing an implicit "public contract" with the legislature and Board. Accountability through performance measures should become an integral part of the funding process in Arizona. The system and its institutions must be able to demonstrate the results of their efforts against defined goals. Such systematic assessment activities can aid in the measurement of investment return and goal achievement.

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16. RECOMMENDATIONS FOR UNIVERSITY INFORMATION SYSTEMS MANAGEMENT

Information systems at each university should be planned more strategically and implemented more carefully. Each university should increase its emphasis on end-user computing, data administration, and the control of system maintenance.

- . Each university should develop a strategic information systems plan to guide the long-range development, implementation, integration, and migration of information systems which are in concert with each university's overall strategic direction.
- . Arizona State University and the University of Arizona should conduct independent reviews of major systems currently under development to assess adherence with original plans and schedules and to control risks. Such a review should be conducted for and report to each university's President's Council. The objective of the review should be to provide a quantifiable measure of comfort or assurance to university executives that these systems will be able to be implemented on time and that they will meet expectations. We recommend the senior university executives engage an independent third party to conduct such an implementation review.
- . Northern Arizona University should carefully analyze in-house development versus package purchase options and should seek to apply the lessons learned by Arizona State University and University of Arizona and should employ a structured systems development methodology in the implementation of its new financial systems.
- . Each university should organize or upgrade end-user computing departments to assist in and control the acquisition, use, security and training in the area of personal computers.

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- . Each university should develop a data administration function and data administration policies to manage and integrate the information needs of the universities. The partial commitments to data administration that have already been made at Northern Arizona University and Arizona State University should be strengthened.
- . Each university should implement change control, cost tracking, and maintenance monitoring systems to identify application systems which may be candidates for replacement.

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17. HUMAN RESOURCES MANAGEMENT RECOMMENDATIONS

Human resources management should be governed by a comprehensive, Board level philosophy and strategy executed consistently across all employee groups. Additionally, the Board and universities should improve their approach to nonclassified compensation and classification, position control, and employee benefits.

- . The Board of Regents should develop an overall human resources philosophy for the Arizona University System to reduce risks and improve its focus on its most important resource. We recommend the Board expand the focus of its current activities in human resource management and develop an overall human resources philosophy related to all employee groups and the full spectrum of human resources management.
- . The scope of compensation and classification systems currently being developed for classified employees should be expanded to include administrative and nonfaculty professional personnel. The compensation strategy should encompass a planned "competitive posture" for base salaries relative to other organizations in the same labor market, the labor markets to be used as a basis for comparison, and the relative emphasis to be placed on cash compensation versus employee benefits.
- . Each university should adopt a policy for recruiting which would centralize responsibility for the recruiting of most positions in the personnel departments, to reduce duplication of effort, minimize advertising costs, and yield a better applicant base.

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- . The Board and each University should work to improve manpower planning and position control capabilities to provide a framework for staff planning, human resource development programs, budgetary controls and monitoring, and recruitment initiation functions. The Board should be able to demonstrate each university's human resource requirements and evaluate the overall position mix within the organizational structure.
- . The Universities should seek to reduce personnel paperwork and streamline personnel processes. Specific recommendations are outlined in the full report.
- . The Board of Regents should encourage the State Department of Administration to evaluate self-insurance options for employee health and dental plans. Specifically, a feasibility study should be conducted to determine what economies can be achieved from self-insuring the medical and dental plans. As a part of this study, an independent audit of health and dental claims paid by the current claims processor should be conducted, as should a review to assess the risk of adverse selection of benefit programs.
- . An assessment should be made of the effectiveness of current cost containment programs including a review of the administration requirements and costs of such programs relative to the impact on the cost and treatment of medical care.
- . The benefits recommendations above apply not only to the Arizona Board of Regents but to the State Department of Administration in its role as "benefits manager" for all state employees.
- . The Board should review its retirement and savings plan policies in light of federal discrimination testing requirements.

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- . Northern Arizona University should accelerate the planned implementation of a new human resources information system. NAU plans to select and implement such a system in 1990. We recommend the development of this system be initiated as soon as possible, ideally during 1989.
- . The Board Central Office should employ an experienced human resources management professional to assist in the implementation of these recommendations and other system level human resources activities.

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18. FACILITIES AND PHYSICAL RESOURCES MANAGEMENT RECOMMENDATIONS

Our recommendations in the area of physical resources and facilities involve performance measures and standards, improvements in cost and timeliness, and other specific productivity suggestions.

- . The Board and universities should significantly improve their planning and analysis capabilities related to facility, grounds, and utility condition. The Board should conduct an initial systemwide independent facilities and utilities audit to objectively assess the condition of each university's building, grounds and utility support systems. Based on the data collected in the initial audit, adequate funding levels for "building renewal" should be objectively determined and sought for the Legislature.
- . Ways should be found to demonstrate and assure that physical resources costs are as competitive as reasonably possible with the private sector. Procurement offices should allow user departments to receive competitive proposals from both outside contractors and the university physical resources departments using plans and specifications prepared by users. The City of Phoenix has successfully implemented such a program, one of the first of its kind in the U.S., with estimated cost savings and cost avoidance of \$16 million.
- . The \$10,000 threshold for competitive bidding of building renovations should be increased to allow physical resource management the flexibility of completing jobs in-house or contracting vendors depending on deadlines and availability of resources. This will require Legislative action.

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- . University physical resources departments must resolve perceptions of tardiness and unreasonable cost on the part of the faculty and research communities. For example, more consistent and better understood chargeback policies should be developed, and the universities should explore the use of standard prices for common projects, expanded use of outside contractors for specialized services, and the implementation of "handyman" programs for small problems and quick response.
- . Performance measurement in physical resources departments should include the accumulation and analysis of individual building conditions including information about maintenance and repair costs per square foot by building and correlation or repairs with specific types of problems, projects, or building conditions.
- . The universities should seek out and reward productivity in facilities management operations through targeted incentive award programs and recognition of excellent performance.
- . More comprehensive backlog reporting systems should be designed and implemented at each university. Labor and material requirements should be estimated on all requisitions before they are forwarded to trade shops to enable better planning, scheduling and backlog management.
- . Information systems should be developed or procured at all three universities to track work requisitions, their stage of completion, estimates to complete, actual completions, and variances.
- . Each University's leadership should periodically establish and monitor priorities among the various "jobs" that originate in the teaching and research component of the institution.

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- . Physical resource department relationships with academic units should be strengthened through periodic meetings.
- . Classroom scheduling functions at each of the universities should be automated and coordinated with the space management function.

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19. PROCUREMENT RECOMMENDATIONS

The Arizona universities should develop systems and functions to improve overall coordination and control of the entire procurements process.

- . Each of the universities should appoint a senior executive to oversee the overall procurement process. This individual should have line authority over some components of the procurement process (e.g., purchasing and contracting) and staff authority over the entire range of procurement functions.
- . Each university should define and establish information requirements and develop reporting systems to support, monitor and control the procurement process as a whole. The three universities should work together to define these requirements for an automated procurement system, and if possible, install similar systems at all three universities.
- . Each university should strive to improve buyer/customer relationships and university/ vendor relations.

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20. IMPLEMENTATION RECOMMENDATIONS

The following recommendations cover implementation timing and other considerations. There are several essential conditions for the implementation of these recommendations contained in the preceding pages.

Most of our recommendations are interdependent and follow a logical implementation sequence.

- . Development of a strategic agenda will be difficult or impossible if organizational improvements are not addressed.
- . Definition of Board strategic information requirements presumes that the Board has developed a strategy.
- . Changes in the funding process should not occur before the articulation of a strategic plan.
- . Many of our specific resource management recommendations relate to recognizing the strategic importance of resource planning and management in the context of long-range statewide and institutional goals.

The Arizona Board of Regents must become a strong advocate for implementing these recommendations.

- . The Board has the authority and resources to cause these recommendations to be implemented. It must also have the will to do so.
- . The Board has the responsibility to implement these recommendations.
- . The Board has a vested interest in taking the initiative in implementing these recommendations, rather than waiting for the Arizona Legislature to do so.

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Several essential conditions must set the stage for implementation of our organization and funding recommendations.

- . Each of the participants in the process must approach the subject at hand with an open mind and an understanding that change is not a negative phenomenon in and of itself.
- . There must be a willingness to recognize that the current decision-making and funding processes may not be the best approach and may not be promoting all of the State's educational needs.
- . Likewise, there must be recognition and acceptance of the fact that Arizona taxpayers invest heavily in higher education and have a vested interest in the "return" on that investment in financial, operational and academic terms.
- . Participants should understand that planning and implementing organizational and funding changes will be a participatory, collaborative and iterative process.

These recommendations will take time, labor and money to implement.

- . The Board should plan to spend several years spearheading these recommendations to make them successful.
- . The resources necessary to implement these changes must accompany mandated changes at the institutions.
- . Our most important recommendations, relating to organization and planning, will primarily require an investment of "sweat equity" and time. Their out of pocket costs will be negligible relative to the potential benefits.

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Implementation of these recommendations should be phased-in over time.

Implementing the recommendations contained in this report will not be easy, free, or accomplished overnight. Assuming adequate commitments of time and resources, the following sequence of implementation is recommended.

We recommend implementation of the following system level activities in 1988.

- . Organizational improvements should receive the Board's highest immediate priority. Every effort should be made to complete the recommended "organizational design" project by the end of calendar year 1988.
- . The Board should also implement the strategic planning recommendations contained in this report during 1988, and plan to complete and publish a strategic plan during 1989.
- . Other Board-level activities which should be completed during 1988 include:
 - .. Review Board personnel policies in light of discrimination testing requirements for Section 125 retirement plans. (This is needed immediately to reduce the risk of inadvertent noncompliance.)
 - .. Complete conceptual design and prototyping of a Board information system.
 - .. Develop a comprehensive system-level human resources management strategy.
 - .. Initiate a project to develop a compensation and classification system for administrative and non-faculty professional employees.
 - .. Hire a chief information officer and an experienced human resources management professional.

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- . The Board should conduct the recommended independent facility/utility audits of its three universities as soon as funding allows, and if possible, before the end of 1988.

University implementation priorities for 1988 should include the following activities:

- . The University of Arizona and Arizona State University should each conduct independent reviews of the implementation status of their core financial systems. These systems should be fully implemented and operational by the end of 1988.
- . All three universities should initiate and, if possible, complete projects to develop strategic information systems plans before the end of 1988.
- . Northern Arizona University should initiate procurement or development of core financial systems before the end of 1988, if funding will allow.

The following recommendations should be undertaken in 1989.

- . In 1989, the Board should complete its strategic plan and reevaluate the state funding and appropriations process in light of the plan.
- . The Board should also complete the following activities during 1989:
 - .. Develop its first statewide "program of work", focusing on the 1991-92 budget year
 - .. Fully implement a Central Office information system

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- .. Develop new performance/accountability measures and implement new reporting procedures in conjunction with Central Office information systems
- .. Work with the State Department of Administration to implement recommendations related to employee health and dental plans.
- . Northern Arizona University should complete procurement or development of core financial systems and initiate procurement or development of a human resources management system during 1989.
- . All three universities should collaborate in the definition of requirements and implementation of purchasing information systems.
- . All three universities should continue to implement the other specific productivity improvement, performance measurement, and systems development recommendations contained in our report as resources allow during 1989 and thereafter.

Our recommendations for implementation in 1990 include the following tasks.

- . In 1990, the Board should work with the Legislature in an effort to recraft the state funding process to explicitly promote the Board's strategic plan and program of work. The Board and the universities should develop their "all-funds" budgets for FY 1991-92 to reflect the strategic plan and program of work developed in 1989.
- . The Board should develop its second program of work, focusing on the 1992-93 budget year during 1990. The Board should begin laying the groundwork for independent program reviews and performance appraisals to be conducted as part of the 1991-92 work program.
- . If possible, Northern Arizona University's core financial and personnel systems should be accelerated to be fully implemented and operational by the end of 1990.

Strategic Planning and Implementation Cycle

